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ENCEPHALITIS IN INFANTS AND CHILDREN

CAUSED BY THE VIRUS OF THE EASTERN VARIETY OF EQUINE ENCEPHALITIS

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During a period of six weeks beginning Aug. 26 and ending Sept. 11, 1938, eight patients were admitted to the Infants' Hospital and to the Children's Hospital suffering from a severe form of encephalitis. Studies performed on one of these patients (J. M.) led to the identification of the causative agent as the virus of the eastern type of equine encephalitis and to the recognition of a new disease affecting man.[1] The occurrence of human encephalitis caused by the virus of equine encephalitis has been suspected since 1932.[2] These patients formed part of a group of approximately thirty-eight infants, children and adults in Massachusetts who probably suffered from this disease in late August and September 1938. The mortality rate for the entire group was 65 per cent. Sixty-nine per cent of those affected were under 10 years of age.[3] The clinical and pathologic data of eight patients observed at the Massachusetts Memorial Hospitals during this outbreak have been recorded.[4]

This outbreak was preceded by some three weeks by an epidemic of the eastern variety of equine encephalitis among horses in southeastern Massachusetts. More than 90 per cent of the 248 horses affected died of the disease. It was also shown during the fall of 1938 that pheasants [5] and pigeons [6] suffer from this disease under natural conditions. The mode of transmission of the virus to man has not been established. There was an interesting chronological parallelism between the human and equine epidemics, with abrupt disappearance of both outbreaks at the onset of cold weather.

From the Departments of Pathology and Pediatrics of the Harvard Medical School and the Infants' Hospital and the Children's Hospital.

1. Fothergill, LeRoy D.; Dingle, John H.; Farber, Sidney, and Connerly, Marion L.: New England J. Med. 219:411 (Sept. 22) 1938. Webster, L. T., and Wright, F. Howell: Science 88:305-306 (Sept. 30) 1938.
2. Meyer, K. F.: Ann. Int. Med. 6:645 (Nov.) 1932.
3. Feemster, Roy F.: Am. J. Pub. Health 28:1403-1410 (Dec.) 1938.
4. Wesselhoeft, Conrad; Smith, Edward C., and Branch, Charles F.: Human Encephalitis, J. A. M. A. 111:1735-1741 (Nov. 5) 1938.
5. Tyzzer, Ernest Edward; Sellards, Andrew Watson, and Bennett, Byron L.: Science 88:505-506 (Nov. 25) 1938.
6. Fothergill, LeRoy D., and Dingle, John H.: Science 88:549-550 (Dec. 9) 1938.

Our purpose in this communication is to record a summary of the clinical and pathologic observations made on eight infants and children who were infected with the eastern variety of the virus of equine encephalitis. Recognition of the nature of the disease was made by actual identification of the virus, neutralization tests carried out on blood serums or pathologic examination (as indicated in the table).[7] Autopsies were carried out on all five patients who died.

INCIDENCE AND MORTALITY

The ages of the group to be presented varied from 1 month to 7 11/12 years; seven of the eight patients, however, were less than 19 months of age. Five were girls and three were boys. Of the eight, two died within forty-eight hours after the onset of the disease and three within five to twenty days after the initial symptoms, and three survived and were discharged to their homes. The mortality rate in this small group of patients was 62.5 per cent.

SYMPTOMATOLOGY

In all instances there was a striking uniformity in the mode of onset, course and physical details. The onset was abrupt and pointed to an early and severe invasion of, and injury to, the central nervous system. Except with one patient, a 7 11/12 year old boy who complained first of malaise and headache, the onset was characterized by high fever, vomiting, rapid appearance of drowsiness or coma and finally twitching or severe generalized tonic and clonic convulsions, all becoming manifest in from twenty-four to forty-eight hours. At the time of admission each patient was acutely and gravely ill and presented on physical examination many of the following symptoms: drowsiness or coma, twitching or generalized convulsions, spasticity, bulging fontanel (in the infants), stiff neck, positive Babinski and Kernig signs, absent abdominal reflexes, cyanosis, and fever ranging from 102 to 106.4 F.

The hospital courses varied somewhat according to the duration of the illness and are described later in more detail. One phenomenon, which demanded attention but unfortunately through lack of sufficient investigation could not be explained fully, was the appearance in five of the patients of a peculiar nonpitting edema of the extremities, face and periorbital regions, occurring usually in from two to four days after the onset of the disease. Serum protein determinations on the blood of three of the infants exhibiting edema were 4.7, 5.4 and 6.4 Gm. per hundred cubic

7. Dr. LeRoy Fothergill and Dr. John Dingle of the Department of Bacteriology of Harvard Medical School and Dr. L. T. Webster and Dr. F. Howell Wright of the Rockefeller Institute furnished reports (indicated in the table) concerning the identification of the virus and the results of neutralization tests.

centimeters. Albuminuria was either absent or present in small quantities such as might be expected in acute febrile illness.

LABORATORY DATA

Lumbar punctures were performed on seven of the patients at the time of admission and on the eighth patient twelve hours after entry, at which time more definite neurologic signs were present. Six of these initial eight lumbar punctures revealed the spinal fluid to be under increased pressure; one showed decreased and one normal pressure. Actual manometric determinations were not made because of either convulsive or struggling movements of the patient. The initial cell counts varied from 246 white cells per cubic millimeter (for a patient who eventually recovered) to 2,000 white cells (for a patient who died twelve hours after entry). The average cell count of the spinal fluid for the group was 1,000 white cells per cubic millimeter. In seven of the spinal fluids, polymorphonuclear cells predominated with percentages ranging from 60 to 100. All of the fluids contained increased protein (strongly positive Pandy tests), normal sugar values (qualitative tests), and no bacteria either on direct examination or on culture. When a patient survived the first few days of the illness the spinal fluid exhibited a reversal of the polymorphonuclear-mononuclear ratio and a rapid fall in the total cell count in from two to six days. Subsequent punctures on five of the patients revealed varying numbers of red blood cells which may have been caused either by trauma or by vascular complications of the disease.

Fig. 1.—Encephalogram of R. R., a girl aged 5 months, taken four months after onset of equine encephalitis. There was marked spasticity of all extremities. Note great symmetrical enlargement of all ventricles.

The white blood cell count varied from 13,600 to 35,600 per cubic millimeter with a mean of 21,000. In the differential counts the polymorphonuclear cells ranged from 55 to 89 per cent. The hemoglobin levels and red blood cell counts were variable, and in some instances the low values were considered dependent on a faulty dietary regimen. Other laboratory examinations included blood cultures, blood Hinton and spinal fluid Wassermann tests, tuberculin tests, and roentgenograms of long bones for heavy metal lines; they were not remarkable.

COURSE

In consideration of the hospital course it is desirable to divide the patients into three groups: (1) those who succumbed within forty-eight hours after the initial symptoms, (2) those who survived the initial infection but who died later as a result of complications and (3) those who survived and were discharged home with residual neurologic disorders.

Name	Age and Sex	Duration Before Hospitalization	Symptomatology	Spinal Fluid: Day of Tap	Red Blood Cells	White Blood Cells	Percentage: Polymorphonuclears	Percentage: Mononuclears	Pandy	Sugar (Qualitative)	Culture
J. M.	7 yr., 9 mo. ♂	36 hrs.	Headache, fever, vomiting, coma, rigidity, stiff neck	1	30	2,000	85	15	+	N	Neg.
				2	250	1,100	87	13	+	N	Neg.
M. S.	10 months ♀	24 hrs.	Fever, vomiting, stupor, cyanosis	1	+++	600	60	40	+	N	Neg.
				2	0	1,200	100	0	+	N	Neg.
M. M.	4 months ♀	48 hrs.	Fever, vomiting, coma, convulsions, spasticity, stiff neck, bulging fontanel	1	1	600	75	25	+	N	Neg.
				2	500	250	46	54	+	N	Neg.
				3	1	22	33	67	—	N	Neg.
W. S.	4 months ♀	48 hrs.	Fever, convulsions, coma, cyanosis, stiff neck, bulging fontanel	1	0	900	100	0	+	N	Neg.
				2	0	500	..	..	+	N	Neg.
				6	0	24	0	100	—	N	Neg.
C. J.	5 months ♀	24 hrs.	Fever, vomiting, convulsions, coma, cyanosis, bulging fontanel	1	0	600	64	36	+	N	Neg.
				2	80	300	0	100	+	N	Neg.
				5	130	60	5	95	+	N	Neg.
				20	++++	36	25	75	+	N	Neg.
R. R.	1 month ♀	24 hrs.	Fever, vomiting, coma, twitching, cyanosis, bulging fontanel	1	0	1,600	100	0	+	N	Neg.
				2	0	200	85	15	+	N	Neg.
				5	975	345	..	..	..	..	Neg.
				11	120	120	5	95	+	N	Neg.
M. C.	18 months ♀	48 hrs.	Fever, irritability, drowsiness	1	0	1,550	90	10	+	N	Neg.
				2	0	160	22	88	+	N	Neg.
				6	0	12	0	100	—	N	Neg.
D. A.	12 months ♂	48 hrs.	Fever, coma, convulsions, cyanosis, rigidity	1	540	250	60	40	+	N	Neg.
				2	880	170	92	8	+	N	Neg.
				3	30	212	40	60	+	N	Neg.
				4	925	46	13	87	+	N	Neg.
				7	90	4	0	100	+	N	Neg.

GROUP 1.—In this group were a boy aged 7 years 9 months and a boy aged 10 months. Each arrived at the hospital in a semicomatose state following an illness of from twenty-four to thirty-six hours' duration. Neither responded favorably to lumbar puncture and parenteral fluids; coma deepened, convulsions appeared, and they died in twelve and sixteen hours respectively with temperatures reaching 107 and 107.6 F. The clinical picture in this group is one of an acute fulminating infection not unlike that seen in infants and children dying of streptococcemia.

At autopsy, severe diffuse meningo-encephalitis was found in both cases. Marked cerebral edema and congestion were prominent features noted on gross examination. The reaction was more severe and the distribution of the inflammatory process more widespread in the brain of the older boy than in that of the infant. In both instances the spinal cord showed only edema and congestion. The exudate in both cases was predominantly neutrophilic in character. Over the base of the brain of the infant, covering the pons, the medulla and a large part of the cerebellum, was a purulent meningeal exudate of an extent found usually in pyogenic meningitis. Just after the death of this infant the spinal fluid contained 5,000 white cells per cubic millimeter, all of which were neutrophils. In neither case were bacteria found in the brain or meninges, either by staining or by cultural methods. Pulmonary edema and early interstitial pneumonia were noted in the lungs of both patients.

GROUP 2.—In this group were three patients. One was a girl aged 4 months who, after a characteristic onset of symptoms, entered the hospital in a comatose and convulsive state, continued to have intermittent convulsions, developed edema of the extremities and face, and died on the seventh day of illness. Of interest in this particular case was the decrease in the spinal fluid cell count from 600 white blood cells per cubic millimeter on admission to 22 per cubic millimeter on the third hospital day, and the rapid fall of temperature from 105.4 F. at entry to 98 F. just before death. The second patient was a boy aged 4 months whose course differed from that of the preceding patient only in that on the eighth day of his illness signs of bronchopneumonia developed. The white blood cell count of the spinal fluid of this infant likewise fell from a level of 920 on admission to 24 on the day preceding death; but the temperature, although declining toward normal, remained in the vicinity of 102 F., and death occurred on the ninth day of illness.

The third patient was a girl aged 5 months who died twenty-one days after the onset of symptoms. She remained in a comatose or convulsive state requiring parenteral fluids and gavage feedings until the fifteenth day of illness, when she began to show evidences of return to consciousness. The temperature, which had remained between 105 and 106 F., fell to 102. Improvement lasted but a few days; then, after a twenty-four hour period of diarrhea, the temperature rose to 105 F. with a return of all the symptoms present on admission. Repeated lumbar punctures failed to reduce the tension of the fontanel more than temporarily. The last puncture, performed six hours before death, yielded grossly bloody fluid which contained but 36 white blood cells. Thrombosis of the longitudinal and tributary sinuses with associated recent massive unilateral subarachnoid hemorrhage was found at postmortem examina-

Fig. 2.—Side view of the patient shown in figure. 1.

Infants and Children

Blood							
Hemoglobin, Percentage (Sahli)	Red Blood Cells	White Blood Cells	Percentage Polymorphonuclears	Percentage Lymphocytes	Hospital Course	Outcome	Confirmation of Diagnosis
75	3.3	19,000	89	8	Intermittent convulsions, coma, temp. 107 F., death	Death 48 hrs. after onset	Isolation of virus; pathologic examination
65	4.9	19,000	64	31	Intermittent convulsions, temp. 107 F., death	Death 48 hrs. after onset	Isolation of virus; pathologic examination
60	3.9	13,600	64	33	Intermittent convulsions, cyanosis, edema of face and eyes, coma, death	Death 7 days after onset	Pathologic examination
86	5.0	14,400	54	10	Intermittent convulsions, coma, pallor, edema of face and extremities, death	Death 8 days after onset	Isolation of virus; pathologic examination
60	4.1	20,600	75	14	Convulsions, pallor, edema of face and extremities, reserved severe convulsions 24 hrs. prior to death	Death 21 days after onset	Pathologic examination
72	5.0	16,500	54	30	Intermittent convulsions for 10 days, generalized rigidity, edema of face, pallor, return to consciousness, residual spastic paraplegia	Home 40 days	Neutralization test
52	4.3	30,500	60	10	Coma, convulsions, neck rigidity, return to consciousness in 6 days, residual spastic right hemiplegia	Home 56 days	Neutralization test
68	4.9	25,000	74	20	Coma, rigidity, return to consciousness in 48 hrs., residual spastic right hemiplegia	Home 42 days	Neutralization test

tion. There was evidence of diffuse encephalitis, although the acute process had subsided to a great extent. Demyelination was present in the numerous scattered areas of local destruction.

Fig. 3.—Encephalogram of M. C., a girl aged 18 months, taken four and one-half months after onset of equine encephalitis. There was spastic right hemiplegia. Note moderate enlargement of all ventricles. The left ventricle shows the greatest amount of enlargement.

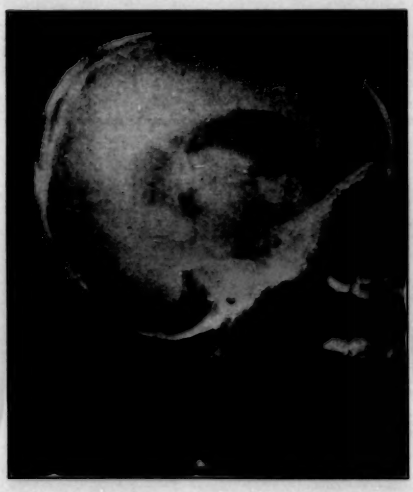

Fig. 4.—Side view of the patient shown in figure 3.

Numerous vascular lesions with thrombosis and necrosis of the walls of small arteries and veins were found throughout the brain. Although areas of nerve cell destruction and perivascular infiltration were present in many areas throughout the cortex, the greatest involvement was found in the basal ganglions, the pons and the medulla.

Examination of the central nervous system of the two infants who died seven and eight days respectively after the onset of the disease showed changes similar to those found in group 1, with the exception that the exudate in perivascular spaces had changed from predominantly neutrophilic to a type consisting of lymphocytes and large mononuclear cells. The meningeal reaction was much less intense than that in the more acute instances of the disease.

GROUP 3.—In this group were three patients. The first was a girl aged 1 month who for twenty-two days remained in a state of coma, spasticity and intermittent convulsions and who manifested edema of the face shortly after the onset of symptoms. During this period transfusions, parenteral fluids and gavage feedings were necessary to maintain life. After twenty-two days she began to take nipple feedings and cried if disturbed. Examination at the time of discharge, forty days after the onset of her illness, revealed spasticity of all extremities, tonic neck reflexes, bilateral ankle clonus, Babinski signs and, in addition,

Fig. 5.—Encephalogram of D. A., a boy aged 1 year, taken six weeks after onset of equine encephalitis. There was spastic right hemiplegia. Note enlargement of the lateral and third ventricles, excess of air over the cortex and widening of sulci.

lack of interest in her environment. Three months later (at 5 months of age) she was readmitted for encephalography; roentgenograms revealed marked enlargement of all the ventricles (figs. 1 and 2). Physical examination at this time showed little or no change in the neurologic signs. A third admission at the age of 6 months because of a severe infection of the upper respiratory tract again failed to reveal improvement of the spastic state or advancement of mental development.

The second patient was a girl aged 18 months whose course was somewhat milder than that of the preceding infant. Coma, edema and convulsions on the right side lasted for eleven days, following which there was a slow return to consciousness with mild interest in the environment. Examination at the time of discharge to her home, twenty-six days after the onset of the illness, revealed a right spastic hemiplegia, partial deafness, impairment of vision and mental deterioration. She was readmitted three and one-half months later for appraisal and encephalography. During the interim she had improved to the extent of recognizing her family, using words and walking, although in an awkward manner, owing to the persistence of the hemi-

plegia. Psychometric studies revealed irregular mental development. Encephalograms demonstrated moderate enlargement of all the ventricles, particularly the left lateral ventricle (figs. 3 and 4).

The third patient was a boy aged 1 year whose convulsions ceased shortly after admission to the hospital but who remained comatose for one week. When consciousness returned, it was discovered that he had mild right spastic hemiplegia. He quickly regained interest in his environment and recognized his parents. Six weeks after the onset of illness, encephalograms were made. These revealed enlargement of the lateral and third ventricles and an excess of air over the cortex with widening of the sulci (figs. 5 and 6). When last examined, at the age of 14 months, there were persistence of the hemiplegia, inability to sit without support, and absence of effort to use even simple words.

TREATMENT

Treatment during the acute and subsequent phases of the disease was entirely symptomatic. For the severe convulsions a variety of sedatives was used, but perhaps the most efficacious was soluble phenobarbital in doses of 1½ to 2 grains (0.1 to 1.3 Gm.) intravenously. Sulfanilamide was given either parenterally or by mouth (gavage) during the first two or three days until bacterial meningitis had been excluded. During the comatose state, parenteral fluids and gavage feedings were administered according to necessity. Later spasticity of the extremities and accompanying deformities were treated by physical therapy and the application of casts.

PATHOLOGY

A composite picture of the pathologic changes in the central nervous systems of the five infants and children studied, with emphasis on the early uncomplicated lesions, is presented in the following paragraphs.

Fig. 6.—Side view of the patient shown in figure 5.

Edema and congestion of the brain and cord and generalized visceral congestion were present to a severe degree. On microscopic examination a diffuse meningoencephalitis was found. The changes may be divided into several groups. There was widespread involvement of nerve cells ranging from early changes of nucleus and cytoplasm to complete disappearance. The areas of dead and dying neurons contained cellular collections composed mainly of polymorphonuclear cells and microglial cells (fig. 7). The second type of change consisted in perivascular accumulations of cells (fig. 8). In the early stages of the disease the reaction consisted mainly of neutrophils, lymphocytes and large mononuclear cells. As the duration increased, the predominant type cells were the lymphocyte and the large mononuclear cell, a change which paralleled the cell picture in the spinal fluid. The third type of reaction consisted in diffuse meningitis, most marked over the base of the brain and present to a slight degree over the cord. The meningeal reaction corresponded to that found in perivascular spaces (fig. 9). In one instance the meningeal reaction over the base of the brain was severe enough to give the gross picture of an acute pyogenic meningitis. The last type of characteristic reaction consisted in the presence of vascular lesions in both arterioles and venules. Numerous small thrombi were present in the small vessels. In addition many of the vessels showed complete involvement of their walls characterized by neutrophilic infiltration and fibrin deposition (fig. 10). Demyelination was not a prominent feature except where entire areas were destroyed by the inflammatory process. No inclusion bodies, either nuclear or cytoplasmic in location, could be demonstrated in the central nervous system. No bacteria were found in association with the early lesions, either by cultural or by staining methods.

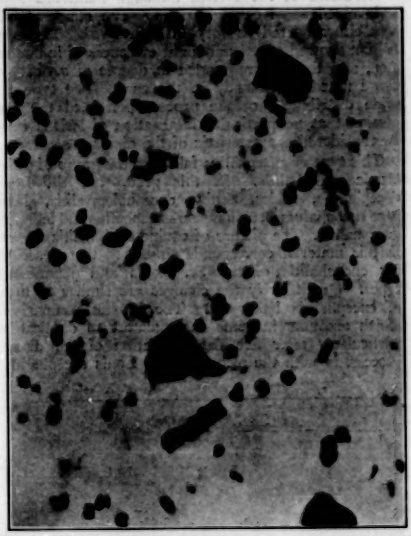

Fig. 7.—Section of medulla of boy aged 7 9/12 years who died forty-eight hours after onset of symptoms. Note destruction of nerve cells and cellular reaction consisting mainly of neutrophils and microglial cells. Eosin-methylene blue stain. Slightly reduced from photomicrograph with a magnification of 1,200 diameters.

The cord in most of the cases showed no involvement except for edema and congestion. Occasional evidences

of early damage to nerve cells could be demonstrated, but in no case was cellular reaction demonstrable.

The distribution of the lesions was of some interest. The most severe involvement was found in the basal ganglions and the brain stem. There was diffuse involvement of the cortex, although numerous small uninvolved areas could be seen. The olfactory bulb was either spared or very little involved. The cerebellum showed occasional slight evidences of inflammation, and these corresponded in degree of severity to those noted occasionally in the cord. The type and wide distribution of the process permitted the conclusion that no particular localization of lesions could be considered characteristic of the disease.

This type of encephalitis falls into the group of polioclastic encephalitis. In this group are St. Louis encephalitis, rabies, equine encephalomyelitis, Japanese encephalitis B, poliomyelo-encephalitis and lethargic encephalitis. The picture of equine encephalitis as seen in this material corresponds closely to that described for encephalitis of the St. Louis and Japanese B types. Qualitatively the changes are similar to those of encephalitis lethargica. The nearest comparison, which amounts in some cases almost to duplication, particularly after five days' duration of the disease process, is with the picture of St. Louis encephalitis.[8]

Fig. 8.—Medulla of a boy aged 7 9/12 years who died forty-eight hours after onset of symptoms. Note perivascular infiltration. Eosin-methylene blue stain. Slightly reduced from a photomicrograph with a magnification of 200 diameters.

The vascular lesions which are so prominent in equine encephalitis in this series have not been stressed in the other forms. Except for the difference in distribution, with particular reference to absence of involvement of the anterior horn cells in the spinal cord in this disease, the type of damage and cellular response closely correspond to the changes in poliomyelo-encephalitis.

The changes in the body consisted mainly of congestion and edema. Severe pulmonary edema was present in all cases as a terminal phenomenon. In the lungs of a patient who died forty-eight hours after the onset, culture of whose blood stream yielded no organisms, an early interstitial pneumonia was found. Scattered small thrombi were present in small vessels in various organs of the body of this patient. Bronchopneumonia was present in all patients who died a few days or more after the onset of the disease.

Fig. 9.—Section of cortex and meninges of a boy aged 7 9/12 years who died forty-eight hours after onset of symptoms. Note infiltration of meninges. Eosin-methylene blue stain. Slightly reduced from a photomicrograph with a magnification of 200 diameters.

DIAGNOSIS

A clinical diagnosis of equine encephalitis cannot be made during the acute phase of the disease with the aid of clinical methods of investigation now available. If the disease progresses to recovery or death of the patient, proof concerning the exact nature of the encephalitis may be obtained by neutralization tests performed on blood serum, usually two weeks or more after the onset of the disease, or by isolation of the virus from the brain and subsequent identification. It is desirable to procure at least 10 cc. of blood serum for the performance of the neutralization test. Tissue for virus study may be removed from the cerebral cortex, hippocampus or medulla oblongata in fatal cases. Should no facilities for immediate study of the fresh tissue be available, the selected specimens of brain should be placed in preserving fluid consisting preferably of equal parts of glycerin and phosphate buffer at a

8. McCordock, Howard A.; Collier, William, and Gray, Samuel H.: The Pathologic Changes of the St. Louis Type of Acute Encephalitis, J. A. M. A. 103:822-825 (Sept. 15) 1934.

p_H of 7.4 or of equal parts of neutralized glycerin and physiologic solution of sodium chloride. The brain tissue so prepared or the blood serum should be sent without delay to a laboratory prepared to conduct the necessary studies.

The histologic picture in the central nervous system is distinctive and suggestive, and it provides an excellent control for animal inoculation studies. The number of postmortem examinations performed on man is too small, however, to permit the definition of a pathologic picture which may be regarded as absolutely diagnostic of, or specific for, this disease.

The clinical diagnosis of equine encephalitis may be suggested, particularly at times of local outbreaks of the disease among horses or birds, by the abruptness of onset and rapid development of signs of severe involvement of the central nervous system. Further suggestive evidence may be obtained if examination of the spinal fluid during the acute phase of the disease

Fig. 10.—Section of medulla of boy aged 7 9/12 years who died forty-eight hours after onset of symptoms. Note involvement of wall of arteriole, with deposition of fibrin and inflammatory cell infiltration. Eosin-methylene blue stain. Slightly reduced from a photomicrograph with a magnification of 970 diameters.

reveals a pleocytosis predominantly neutrophilic in character, increased protein, normal sugar and absence of organisms on smear or culture.

SUMMARY

Eight instances of encephalitis in infants and children caused by the virus of the eastern variety of equine encephalomyelitis were observed. Five of the patients died; three survived but had serious residual neurologic disorders. The pathologic picture is that of a severe diffuse meningo-encephalitis and resembles that caused by the virus of St. Louis encephalitis.

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A SURVEY OF PRENATAL SYPHILIS IN A HOSPITAL FOR SICK CHILDREN

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The exact incidence of prenatal syphilis is difficult to determine. It varies according to country, population and race. Actual prevalence would have to take into consideration the incidence of abortions, stillbirths and preceding postnatal deaths due to syphilis. The results of Jeans and Cooke's [1] study are most frequently quoted as to the incidence of congenital syphilis in the United States. They estimated that 2.89 per cent of the babies born in St. Louis had prenatal syphilis. Negroes composed 9 per cent of their patients but furnished half the cases of congenital syphilis in infancy. Cole [2] thinks that in some sections of the United States where the Negro population is great the incidence of prenatal syphilis may be as high as from 15 to 20 per cent.

Prior to 1938 routine serodiagnostic tests were made only on all patients in the wards of the Children's Memorial Hospital. In the outpatient department the diagnosis was based on clinical data supplemented by serologic tests when these seemed indicated. As a result of a survey conducted by the social service department it was revealed that by this method alone only 0.2 per cent of our patients were found to have congenital syphilis. The challenging discrepancy between this figure and that of Jeans and Cooke, in spite of the relatively small number of Negroes in our clinic, together with the fact that this method alone had not uncovered all cases, made it evident that an investigation was indicated.

The resulting survey here presented, begun in 1938, had the following objectives: first, to determine the incidence of syphilis in our own clinic population, a clinic for sick children only and predominantly of the white race; second, to evaluate the comparative statistical dependability of clinical and serologic diagnosis under existing conditions; third, to find out what factors, such as states of health, most often led to false serodiagnostic reactions in children; finally, we hoped to reach some decision as to the relative reliability in children of the various tests with a view to final selection for routine use of the ones best suited to our own needs and possibly those of others.

PROCEDURE

In order to determine the incidence of syphilis in our clientele and at the same time not overload the laboratory, it was decided that all patients applying at the clinic for care for the first time between March 1, 1938, and March 1, 1939, were to have several serodiagnostic tests for syphilis. Three tests were made on each patient: the Wassermann, Kolmer technic, Kahn and Eagle flocculation tests. The Eagle flocculation tests were done on half quantities and the material was incubated in a water bath for thirty minutes at 56 C.

From the Children's Memorial Hospital.
The Public Health Institute furnished us with the technician, Dr. J. E. Kemp of that organization critically reviewed our procedures and results, and the social service department of the Children's Memorial Hospital cooperated.

1. Jeans, P. C., and Cooke, Jean V.: Prepubescent Syphilis, New York, D. Appleton & Co., 1930.
2. Cole, H. N.: Congenital and Prenatal Syphilis, J. A. M. A. 109: 580-585 (Aug. 21) 1937.

instead of three hours at 37 C. as now advocated. This was done both because it required less blood and because it was less time consuming. Of the seventeen siblings of syphilitic patients there were five who gave positive serologic reactions. Three of these are included in this survey because they were new patients; two were excluded because they had previously been registered in the clinic. Resistance on the part of parents was practically negligible.

TABLE 1.—*Patients with One or More False Positive or Doubtful Serodiagnostic Tests*

Diagnosis	With Fever	Without Fever
Upper respiratory infection, uncomplicated	18	8
Upper respiratory infection with complications	22	3
Pulmonary infections (pneumonia, atelectasis, pertussis)	6	2
Local suppuration	4	1
Generalized skin eruptions (eczema, seborrheic dermatitis and dermatitis venenata)	5	3
Pylorospasm	1	..
Scurvy	1	..
Trauma	3	4
Diagnosis uncertain	3	..
Total patients	61	21

The patients for whom all three tests were negative and who also had a negative family history and no physical signs suggestive of syphilis were considered not syphilitic.

Patients with positive or doubtful reactions to one or more of the serodiagnostic tests were referred to the syphilitic clinic, where a more detailed family history was obtained, the patient was examined by the syphilologist, and such further serologic tests were made as were necessary. In the doubtful cases with evidences of an acute infection the tests were repeated during convalescence and, if still doubtful, one month after recovery. If there was no apparent infection, the test was repeated in from one to four days. The parents and siblings in all the positive and persistently doubtful cases were tested. The mothers of all infants too were tested, in order to make sure that a negative test in a young baby was not due to the generally accepted nondependability of serologic reactions in earliest infancy.[3] When the diagnosis of syphilis was made, treatment was carried out in the syphilis clinic.

In some instances the serodiagnostic tests remained doubtful long enough and the physical data were sufficiently equivocal to require examination of the spinal fluid, and of the blood, after provocative therapy. When the patient was proved to be nonsyphilitic he was discharged from the syphilis clinic.

RESULTS

During the twelve months from March 1, 1938, to March 1, 1939, 5,625 patients from 1 day to 13 years of age were examined for evidence of syphilis. Only 185 were Negroes, three were Chinese and the remainder were of the white race. No significant correlation could be made between incidence of syphilis and parental national origin or religion.

Twenty-seven cases of syphilis were found, an incidence of 0.48 per cent. Of these twenty-seven syphilitic children, twenty-six had prenatal involvement and one had acquired the disease through a transfusion given elsewhere soon after birth. Five of the children with prenatal syphilis were Negroes. Whereas the Negroes made up only 3.3 per cent of the total additions to the clinic during this year of the study, they furnished 18.5 per cent of the syphilitic patients. The actual incidence among Negro children was only 2.7 per cent, against an incidence of 0.4 per cent among the white children.

The Illinois state law requiring premarital serologic tests and the widespread antisyphilitic propaganda leading to the more frequent and more intensive treatment of syphilitic parents and especially of pregnant women are undoubtedly important factors in our relatively low incidence. The fact that our syphilis clinic has declined materially in attendance during the last few years as more of this work has been taken up by public agencies must also be considered, but the actual effect of this on the general incidence among our patients is hard to evaluate.

The value of routine serodiagnostic tests in finding patients with syphilis is readily appreciated from a study of our results. Twenty-two of the twenty-seven syphilitic patients had been diagnosed clinically; five of the twenty-seven cases were discovered as a result of routine blood tests. When carefully checked, two of these five were found to have stigmas of prenatal syphilis. From this it appears that serologic tests revealed the presence of syphilis that had not been diagnosed clinically about once in 1,100 cases.

Roentgenograms of the long bones were taken of all infants of syphilitic parents despite the history of adequate treatment of the mother during pregnancy. Only one case was revealed in this way. Two older children had syphilis of the bone, periostitis of the tibia.

The serodiagnostic tests were not delayed because of illness, a rare occurrence, unless drawing the blood jeopardized the child's welfare. There were eighty-two children (eighty-one white and one Negro), or 1.46 per cent, who had a positive or doubtful reaction in one or more of the tests which later proved negative. No definite time relationship could be established but, in general, after the nonspecific infection had cleared up the serodiagnostic tests became negative. All of these eighty-two children who had false positive or doubtful reactions except seven had, at the same time, definite evidence of infection, and four of these seven had generalized eczema as well. Sixty-one of the children had fever at the time the blood was drawn for the tests. The repertory of clinical diagnoses included infections of the upper respiratory tract of all grades of severity, otitis media, mastoiditis, retrotonsillar abscess, cervical adenitis pneumonia, pertussis, catarrhal jaundice, impetigo, furunculosis, eczema and pylorospasm with fever (table 1). Parran and Emerson [4] expressed not only their own impression but also that of many serologists in saying that "since with the present serologic tests for syphilis both typical and atypical

TABLE 2.—*False Serodiagnostic Results*

Test	Positive	Doubtful	Total
Kahn only	11	45	56
Eagle only	1	23	24
Wassermann only	8	14	22
Kahn and Eagle	6	4	10
Wassermann and Kahn	2	2	4
Wassermann, Kahn and Eagle	1 (W)	1 (K and E)	1
			117

3. Jeans, P. C.: Syphilis, in Brennemann, Joseph: Practice of Pediatrics, Hagerstown, Md., W. F. Prior Company, Inc., 1936, vol. 2, chapter 26, p. 43.

4. Parran, Thomas, and Emerson, Kendall: The Effect of Tuberculosis on the Serologic Reactions for Syphilis, Am. Rev. Tuberc. 39:1-144 (Jan.) 1939.

false doubtful and false positive results are found in serums from tuberculous donors, it is evident that tuberculous toxemia may contribute a confusing factor to the serologic study of syphilis." Although there were seventy-four children with active tuberculosis, not one was found to have a false positive serodiagnostic test. The only child with active tuberculosis and positive serodiagnostic tests proved to be syphilitic, and both parents were also syphilitic.

An analysis of the false reactions brought out the following facts:

(*a*) The Kahn test was the most sensitive, the Eagle flocculation test next, and the Wassermann test the least sensitive (table 2).

(*b*) A false Wassermann reaction did not persist despite the continued presence of the nonspecific infection, with or without fever.

(*c*) There was one instance of a positive Wassermann test of a 5 weeks old nonsyphilitic baby of a syphilitic mother. The tests made after the neonatal period were all negative. The mother had had intensive antisyphilitic therapy from the third month of pregnancy to term. The baby did not have any stigmas of prenatal syphilis. Apparently sufficient reagin from the mother was still present in the newborn baby to make the blood test positive although the baby was not syphilitic.

The 5,625 patients tested during the one year period represent 5,281 families. One or both parents in eighty of these families were syphilitic. One hundred and twenty-five children of these syphilitic parents were tested. Ninety-eight were not syphilitic and, as previously stated, twenty-seven were.

SUMMARY

The 5,625 new patients, from 1 day to 13 years of age, admitted to the Children's Memorial Hospital dispensary and wards from March 1, 1938, to March 1, 1939, were examined clinically and serologically for the presence of prenatal syphilis. Three serodiagnostic tests were made on each patient: the Kolmer-Wassermann, the Kahn and Eagle flocculation tests.

The racial distribution was as follows: white 5,437, black 185, yellow three.

There were twenty-seven patients with syphilis in the group of 5,625, making an incidence of 0.48 per cent. One child had acquired syphilis through a blood transfusion; twenty-six had prenatal syphilis. The incidence of prenatal syphilis was, therefore, 0.46 per cent.

Whereas the Negroes constituted only 3.3 per cent of the total clinic population examined, they constituted 18.5 per cent of the syphilitic patients.

The incidence of syphilis among the Negro children of our clinic is not as great, however, as it would seem, since only 2.7 per cent of them were syphilitic. The incidence of syphilis among the white children was 0.4 per cent.

During the year there were eighty-two patients with false positive or doubtful reactions. An infection or a severe generalized cutaneous eruption was present in seventy-four of these patients. The serologic tests returned to normal before or soon after evidences of infection cleared. We did not find a tendency toward false reactions in patients with active tuberculosis. The acute infections of the respiratory tract during the febrile period contributed the large majority of instances of false positive serologic reactions.

Routine serodiagnostic tests for syphilis are obviously advisable in a children's dispensary or hospital. Although it would have been possible to diagnose clinically twenty-six of the twenty-seven cases of syphilis found during the year, actually only twenty-two, or 82 per cent, were so diagnosed or suspected prior to the serology report.

In this survey the Kahn test proved the most sensitive and the Wassermann test the most reliable.

It would seem from this a safe procedure to do a Kahn test as routine since not a single false negative test was given. If positive, the Kahn test should be fully checked by the Wassermann test and by an adequate clinical investigation of the patient and his family.

707 Fullerton Avenue.

THE USE OF SODIUM SULFAPYRIDINE BY HYPODERMOCLYSIS

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When sulfapyridine was introduced for clinical use in the treatment of pneumococcic infections in July 1938 by Evans and Gaisford [1] it was found that a considerable number of persons could not tolerate the drug by the oral route. Later it was discovered that the absorption of the drug from the gastrointestinal tract was erratic. There was no direct relationship between dosage and blood level of the drug even when such factors as the intake and output of fluid and the weight of the patient were controlled. This was ascribed to the relative insolubility of the drug compared with sulfanilamide.

In December 1938 Marshall [2] described the production of sodium sulfapyridine, which is soluble, and performed toxicity experiments on animals. Following his directions for preparation, we began giving pneumonia patients cutaneous tests with solutions of sodium sulfapyridine in varying strengths and found that solutions up to 1 per cent gave no reactions when injected intracutaneously and subcutaneously.

Since January 1939 my associates and I have used sodium sulfapyridine by hypodermoclysis in more than fifty cases of pneumonia and other conditions for which sulfapyridine was indicated, such as pneumococcic meningitis. The initial dosage used during this time has been from 3 to 7 Gm. dissolved in 1 liter of physiologic solution of sodium chloride depending on the weight, estimated kidney function and state of hydration of the patient. Subsequent doses were given at intervals of from twenty-four to thirty-six hours in similar amounts, depending on the response of the patient, the blood level attained and the reactions that occurred.

In spite of the fact that such solutions are highly alkaline (p_H 10.5 or higher) we have not observed a single local reaction. We have used more than 1,100 Gm. of the drug by this route. We feel that this mode

Dr. Leona L. Miller prepared the sodium sulfapyridine.
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1. Evans, G. M., and Gaisford, W. F.: Treatment of Pneumonia with 2-(p-Aminobenzenesulfonamido) Pyridine, Lancet 2:14 (July 2) 1938.
2. Marshall, E. K., Jr.; Bratton, A. C., and Litchfield, J. T., Jr.: Toxicity and Absorption of 2-Sulfanilamidopyridine and Its Soluble Sodium Salt, Science 88:307 (Dec. 23) 1938. Marshall, E. K., Jr., and Long, P. H.: Sodium Sulfapyridine, J. A. M. A. 112:1671 (April 29) 1939.

of administration has many advantages and in a large number of cases is the method of choice.

The advantages over oral administration are as follows:

1. There is no question about absorption, especially when vomiting is present.
2. A concentration in the blood plasma of from 4 to 10 mg. per hundred cubic centimeters can be reached within a few hours, and this is maintained for from eighteen to thirty-six hours.
3. The requirement of sodium chloride is supplied at the same time. Many patients dislike taking salt orally.
4. The fluid intake is supplemented. In many cases in which sulfapyridine is given orally it is difficult to maintain fluid intake at optimal levels because of nausea and vomiting.
5. Smaller total doses are generally required.

The advantages over intravenous administration of sodium sulfapyridine are:

1. There is no danger of local reactions. Five per cent solutions of sodium sulfapyridine are reported to be very irritating if some of the solution escapes the vein.
2. The effective concentration in the blood is maintained for a longer time—twenty-four hours as compared with about twelve hours.
3. The technic of administration is simpler and more widely applicable.

The method of preparation of the solution has been the same as that used for parenteral sulfanilamide. Physiologic solution of sodium chloride is brought to a boil and allowed to cool for five minutes and the powdered sodium sulfapyridine is added. The solution is then allowed to cool to body temperature and given in the routine fashion into the thighs or under the breasts. The average patient usually tolerates administration by this route at the rate of from 200 to 300 cc. an hour.

It was found that physiologic solution of sodium chloride is preferable to Ringer's solution. We were never able to get complete solution of the sodium sulfapyridine in Ringer's solution. In cases in which this was tried, the solution was cloudy and appeared to be a suspension. In a few cases such a suspension was used without ill effects, but I feel that the use of physiologic solution of sodium chloride is preferable.

Regarding toxicity, we have noted no appreciable difference in the incidence of any of the usual reactions to sulfapyridine. The fact that nausea and vomiting occurred in more than half of the cases in which the sodium salt was given supports the theory that such reactions are of central rather than of local origin. There were several deaths among the cases in which sodium sulfapyridine was given but none of them were proved to be caused directly by the drug.

There were not sufficient cases in which the sodium sulfapyridine was used alone to evaluate its efficacy as compared with serum or sulfapyridine by mouth, but the general impression was that the sodium sulfapyridine given by hypodermoclysis was equal in effectiveness to oral sulfapyridine, and as a rule smaller amounts were required to cure the patient.

SUMMARY

Sodium sulfapyridine has been used by hypodermoclysis in more than fifty cases of pneumonia and numerous other conditions for which sulfapyridine was indicated but in which oral administration was difficult or impossible. The drug was given in from 0.3 to 0.7 per cent solution in physiologic solution of sodium chloride and no local reactions were observed in any of the cases. More than 1,100 Gm. of the drug has been given by this method.

This route of administration is advocated when the drug is not tolerated by mouth or is poorly absorbed from the gastrointestinal tract and when a high sustained concentration in the blood is imperative.

260 Crittenden Boulevard.

PERTUSSIS PROPHYLAXIS

A CONTROLLED STUDY

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SAN FRANCISCO

A study of pertussis prophylaxis has been under observation at the University of California since March 1935. The plan of our method of study, the criteria for exposure to pertussis and the results of our earlier observation have been published in detail in a previous report.[1] My purpose in this report is to bring the results of our observations up to date, to stress the necessity of rigid control for such a program and to point out some of the difficulties encountered in a study of this nature.

The efficacy of a prophylactic procedure is difficult to determine conclusively in most diseases. Pertussis is not one of the exceptions. The best and most critical test of any prophylactic measure is subjection of the immunized or treated individual to direct close contact with the disease in question. Studies of this nature not infrequently require years of observation on a rigidly controlled series. Since we cannot deliberately subject a large number of our pertussis vaccine immunized children to intimate contact with children suffering with this disease, it becomes necessary to accumulate accurate available data patiently over long periods of time.

The number of cases of pertussis in a given community may vary in different twelve month periods and in the corresponding seasons. In San Francisco there have been 790 cases of pertussis reported during the past twelve months, June 1, 1938, to June 1, 1939. This incidence is low when compared to 1,174, 977 and 2,426 cases reported during the three previous twelve month periods beginning June 1, 1935, and ending June 1, 1938, respectively. These variations are shown graphically in chart 1, the curves representing the trend in the case incidence rather than the true case rate, because many patients with pertussis are not seen by a physician and not all cases of pertussis in a community are reported.

It would seem logical that the chance of exposure to pertussis should vary with the incidence of the disease in a given community. An analysis of the total number (260) of direct exposures [2] to pertussis which occurred in our series of 796 children under observation during the entire period of our study shows that these exposures appear to have a definite correlation with the incidence of the disease in San Francisco during the same period.

This study was made possible by a grant from the Christine Breon Fund.

From the Department of Pediatrics of the University of California Medical School and the Hooper Foundation for Medical Research.

1. Singer-Brooks, Charlotte H.: J. Pediat. 14:25-38 (Jan.) 1939.

2. Only direct exposures to pertussis are recorded. Probable and possible exposures have been excluded, since in these instances we were not able to establish without question that exposure to living Haemophilus pertussis organisms occurred. Not infrequently a child contracts pertussis without the parents' knowledge of exposure to the disease. In such cases direct exposure has obviously occurred, and we have classified them as such. Since exposure to pertussis is often not noticed, it is likely that we have had a larger number of exposures in our group than has come to our attention.

This correlation is shown graphically in chart 2. Multiple direct exposures are included in the total 260 exposures recorded.

In different epidemics there is considerable variation in the severity of the disease; a mild course predominates in some epidemics, whereas in others the disease has been more severe. It is especially difficult to determine accurately the number of exposures to pertussis which occur during mild epidemics, since undoubtedly many cases are missed (so-called abortive cases). Without the cough plate (bacteriologic diagnosis) it is not always easy to determine whether direct exposure to living Haemophilus pertussis organisms has occurred. Determination of this factor is dependent in a degree on the cooperation of the parent in reporting known exposures soon after they occur.

If a child is exposed to a very small dose (only a few living Haemophilus pertussis organisms) it is quite possible that he will not acquire symptoms of the disease. Hence the size of the infective dose and the virulence of the organism are also important factors in determining the efficacy of prophylaxis in any program of immunization. The observer should not overlook any of these factors and must be on guard to maintain an extremely critical, even skeptical, point of view, basing conclusions only on severely tested objective manifestations.

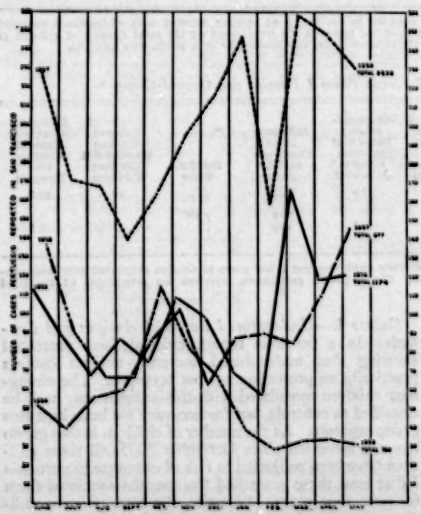

Chart 1.—Incidence of pertussis in San Francisco: Curves show the seasonal variation of cases of pertussis during four twelve month periods. The figures at the end of each curve represent the total number of cases reported during the respective twelve month period.

The follow-up study, which is the most valuable part of this program, entails unceasing education of the parent, not only to enlist cooperation in reporting exposure as soon as it occurs but also to maintain this cooperation over a period of years.

In our study we have frequently encountered instances in which a history of direct exposure was reported by the parent, but on careful, minutely detailed questioning as to all the circumstances related to the reported exposure (whether coughing was known to have occurred, the distance between the patient with pertussis and the child in question, and the duration of the contact) direct exposure to pertussis has been unquestionably ruled out. In other instances a home visit with the contact, for the purpose of taking cough plates (from three to five), has revealed that exposure to living Haemophilus pertussis was very doubtful, since the patient in question was not in the communicable phase of the disease.

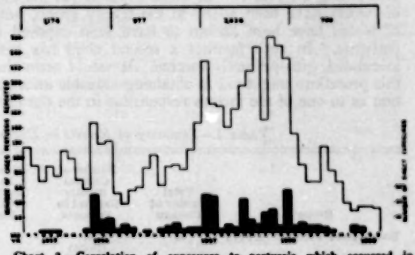

Chart 2.—Correlation of exposures to pertussis which occurred in children under our observation, with the incidence of the disease in San Francisco during a four year period. Limitation of space demanded the representing of our figures in two different scales as indicated. The top line represents the number of cases of pertussis reported. The figures at the top represent the total number of cases reported during the respective twelve month periods. The solid portion represents the distribution of the 260 exposures to pertussis which were observed in the 796 children during the period of four years.

The number of children in our prophylaxis study has increased gradually since March 1935. We have deliberately kept the number of children in our study under 1,000 in order to obtain a more critical follow-up study. Obviously the follow-up becomes increasingly more difficult as the number of children under observation increases. Clinic patients are notorious for their frequent changes of address, and finding them not infrequently consumes considerable time and effort. When change of employment has required a change of residence out of the city or out of the state, the follow-up has been conducted through correspondence. Although this is not as satisfactory as personal contact, some information as to familial exposure can be obtained this way. Change of economic status sometimes eliminates patients from clinic care. We have been able to keep such patients for "follow-up only" through special arrangements with the social service departments and by enlisting cooperation of the parents. Not infrequently we have lost the control child in these instances because the parent has requested the private physician to give prophylactic injections of pertussis vaccine to the new members added to the family group.

In addition to determining whether protection was conferred by injections of Haemophilus pertussis vaccine, we wished to obtain some accurate information as to the duration of protection. It is impossible to predict at what period of life exposures may occur. What, then, will be the result when an immunized child has his first direct exposure to pertussis four or five years after having received prophylactic injections of pertussis vaccine?

In our group we have children who have been risking exposure from three to four years without yet having been exposed to the disease. To reinoculate children in the pertussis vaccine series after a lapse of two years, as has been advocated by some investigators, would not throw much light on the duration of protec-

tion. Hence, except in special cases, such as the existence of organic heart disease or for an equally justifiable reason, we have not given a secondary vaccine stimulus to our immunized children.

As the period of observation has increased we note that in many instances the number of children per family also has been increased, and we are approaching more and more the ideal of sibling or familial controls. Furthermore, we have families in which one member received vaccine three or more years ago and in the intervening interval two or more children (in the case of twins) have been added to the family group, none of whom have been known to have been exposed to pertussis. In such families a second child has been inoculated with pertussis vaccine. It would seem that this procedure might aid in obtaining valuable information as to one of the factors responsible in the duration of protection conferred by injection of vaccine. It is well known that an attack of pertussis does not necessarily confer a lasting or absolute immunity to the disease, and a lasting or absolute resistance from vaccine immunization is not expected.

The duration of protection following immunization with pertussis vaccine will probably depend in large measure on the complicated immunity mechanism of each individual host and perhaps on silent infection following exposure to massive dosage at a time when resistance is high. Repeated exposure to smaller infective dosage at longer intervals after immunization also may act as a stimulus in increasing resistance to the disease. The latter may influence noninoculated children in the same manner. It may be one of the reasons why escapes following exposure to the disease are encountered more frequently in the older age groups of the controls. Prevalence or absence of pertussis in a given community, then, may have an important influence on the duration of protection conferred by injection of pertussis vaccine.

RESULTS

From March 1935 to the present time we have had 796 children under observation in our pertussis prophylaxis study. Of this number ninety-four children received injections of undenatured bacterial antigen during the nine month period between March and December 1935. This antigen was discontinued entirely in December 1935. Pertussis phase I vaccine (total dose 80 billion organisms) was given to 330 children in the period September 1935 to June 1, 1939. Noninoculated controls comprise 372 of the total 796 children. Of the total number of control children, seventy-seven serve as sibling or familial controls [3] for the ninety-four children inoculated with undenatured bacterial antigen; 200 are sibling or familial controls for the 330 children inoculated with pertussis vaccine; ninety-five are additional controls with no test child in the family. In order to avoid confusion, the inoculated groups with their respective controls and the additional control group will be considered separately.

TABLE 1.—*Summary of Results in Undenatured Bacterial Antigen and Control Groups* *

Group	Total Number of Children	Number of Children Directly Exposed to Pertussis	Number of Exposed Children Who Contracted Pertussis	Communicability Rate (% of Exposed Children Who Were Attacked)	Difference in Communicability Rate of the Two Groups	Number of Exposed Children Who Did Not Contract Pertussis	Protection Rate (% of Exposed Children Who Escaped)
Undenatured bacterial antigen	94	45 (49.4%)	39	86.6	0.5%	6	13.3
Noninoculated sibling or familial controls	77	35 (45.4%)	30	85.9		5	14.2

* Summary of exposures to, cases of and escapes from pertussis which occurred in the group of children injected with undenatured bacterial antigen and their respective sibling or familial controls. The figures in parentheses represent the percentages of the total number of children in each group who encountered exposure during the entire period at risk (from three years, five months to four years, two months).

TABLE 2.—*Summary of Results in Haemophilus Pertussis Phase I Vaccine and Control Groups* *

Group	Total Number of Children	Number of Children Directly Exposed to Pertussis	Number of Exposed Children Who Contracted Pertussis	Communicability Rate (% of Exposed Children Attacked)	Difference in the Communicability Rates	Standard Error	Number of Exposed Children Who Did Not Contract Pertussis	Protection Rate (% of Exposed Children Who Escaped)
H. pertussis phase I vaccine (total dose 80 billion)	330	64 (19.4%)	5	7.8	89.9	±3.05	59	92.2
Noninoculated sibling or familial controls	200	45 (22.5%)	44	97.7			1	2.2

* Summary of instances of exposures to, cases of and escapes from pertussis which occurred in the group of children inoculated with Haemophilus pertussis phase I vaccine and their respective sibling or familial controls. The figures in parentheses represent the percentages of the total number of children in each group who encountered exposure to pertussis.

GROUP 1.—*Undenatured Bacterial Antigen and Controls.*—In a previous report, evidence was presented showing that undenatured bacterial antigen confers practically no protection against pertussis. The ninety-four children inoculated with this antigen may well be classified as controls, but for accuracy we have kept this group separate. As the number of children in this group has not increased since December 1935, all these children have been subjected to risk of exposure to pertussis for at least three years and five months—some of them for over four years. Likewise, the seventy-seven children who served as sibling controls for this group have also been risking exposure for the same period of time.

A summary of results of our observation on ninety-four children inoculated with undenatured bacterial antigen and the seventy-seven controls is shown in table 1. The observations recorded further substantiate the similarity in the results obtained in the group of children inoculated with undenatured bacterial antigen and those of noninoculated sibling controls. The small difference in these results is not significant.

3. By sibling control we mean a brother or sister of the inoculated child who has had neither previous exposure nor an attack of the disease. By familial control we mean members of the same household, such as foster child, cousin or house guest.

Of the six children who escaped the disease in the undenatured bacterial antigen group, four were subjected to familial exposure. At the time of exposure the ages of the four children were 2, 6, 7 and 17 years respectively. Of the six who escaped the disease, two children, 4 and 8 years of age, had daily contact with neighbor playmates, from whom pertussis cultures were recovered.

or reliable test for determining immunity to pertussis; nothing is known as to the nature of immunity in this disease; an explanation of the reason for this phenomenon will have to await further study.

GROUP 2.—*Pertussis Phase I Vaccine and Controls.*—We now have under observation 330 children who were inoculated with pertussis phase I vaccine [4] in the period between September 1935 and June 1, 1939. In this

TABLE 3.—*Results According to Period at Risk* *

Period When Child Was Entered into Study	Total Number of Children	Total Number of Children Exposed to Pertussis	Exposed Children Who Contracted Pertussis		Exposed Children Who Escaped		Per Cent of Total Number in Group Who Were Exposed at Some Time During the Entire Period of Risk
			Number	Per Cent	Number	Per Cent	
Haemophilus Pertussis Phase I Vaccine							
Sept. 1935 to Jan. 1, 1936 (at risk 41 to 45 mo.).....	55	21 (10)	3 (2)†	13.9 (20)	18 (8)	85 (80)	38
Jan. 1, 1936, to Jan. 1, 1937 (at risk 29 to 41 mo.)...	82	18 (14)	0 (0)	0 (0)	18 (14)	100 (100)	21.9
Jan. 1, 1937, to Jan. 1, 1938 (at risk 17 to 29 mo.)...	108	25 (13)	2 (2)	8.5 (15.3)	23 (11)	91.5 (84.6)	24.2
Jan. 1, 1938, to Jan. 1, 1939 (at risk 5 to 17 mo.)....	70	0	..	....	..	....	0
Jan. 1, 1939, to June 1, 1939 (at risk 0 to 5 mo.)....	20	0	..	....	..	....	0
Control							
Sept. 1935 to Jan. 1, 1936 (at risk 41 to 45 mo.).....	39	14	14	100	0	0	35.7
Jan. 1, 1936, to Jan. 1, 1937 (at risk 29 to 41 mo.)...	58	16	15	93.8	1	6.3	27.4
Jan. 1, 1937, to Jan. 1, 1938 (at risk 17 to 29 mo.)...	60	15	15	100	0	0	25
Jan. 1, 1938, to Jan. 1, 1939 (at risk 5 to 17 mo.)....	20	0	..	....	..	....	0
Jan. 1, 1939, to June 1, 1939 (at risk 0 to 5 mo.)....	13	0	..	....	..	....	0

* The number of exposures to, cases of and escapes from pertussis which occurred in the pertussis vaccine and control groups who risked exposure for variable periods. The figures in parentheses indicate the number of children who were exposed to sibling or familial controls with the disease and the cases and the like which resulted from these exposures.

† One child contracted pertussis only after a second familial exposure.

TABLE 4.—*Period of Study*

Period During Which Children Were Entered into Study	Total Number of Children Under Observation	Exposures Which Occurred During the Respective Periods				Total Number of Exposures	Total Number of Children	Per Cent of Total Number of Children Who Were at Some Time During Entire Period Risk, Exposed to Pertussis
		Sept. 1935 through May 1936	June 1936 through May 1937	June 1937 through May 1938	June 1938 through May 1939			
Sept. 1935 to June 1, 1936.....	173	[14] (at risk 0-9 mo.)	13 1* (at risk 9-21 mo.)	40 11* 4† (at risk 21-32 mo.)	7 2† (at risk 32-41 mo.)	76	55	32.2
(Pertussis vaccine 103)								
(Control ..... 70)								
June 1, 1936, to June 1, 1937.....	108	..	[7] (at risk 9-12 mo.)	28 (at risk 12-24 mo.)	6 2* (at risk 24-36 mo.)	36	34	31.3
(Pertussis vaccine 66)								
Control ..... 42)								
June 1, 1937, to June 1, 1938.....	102	..	..	[8] (at risk 0-12 mo.)	13 2* (at risk 12-24 mo.)	21	18	10.7
(Pertussis vaccine 105)								
(Control ..... 62)								
June 1, 1938, to June 1, 1939.....	81	..	..	..	[9] (at risk 0-12 mo.)	0	0	0
(Pertussis vaccine 56)								
(Control ..... 25)								
Total	530	14	20	70	35	131	108	20
(Pertussis vaccine 330)								
(Control ..... 200)								

* Number of children directly exposed for second time.

† Number of children directly exposed for third time.

Of the five children who escaped the disease in the control group, all but one were subjected to familial exposure (proved bacteriologically). At the time of exposure the ages of the four children were 3, 6, 8 and 14 years respectively. The one child not subjected to sibling exposure was 3 years old. Of the recorded eleven children who escaped the disease, three (aged from 2 to 3 years) may be considered in the susceptible age group and yet they did not contract the disease even though they were subjected to repeated intensive infections. Were these children endowed with a natural resistance to the disease? We have no other specific

number are only those children who have received a minimum total dose of 80 billion killed pertussis organisms. Children who did not return for the complete series of injections have been excluded. Sibling or familial controls for this immunized group comprise 200 noninoculated children. A detailed analysis of our observation on these 530 children will be presented so that comparison of the results in the two series can be noted more critically. A summary of the instances of exposure, of development of pertussis and of escape

4. The preparation of vaccine is given in detail in a footnote in the Journal of Pediatrics,[1] page 25.

of development of pertussis which occurred in the 530 children comprising the two series is shown in table 2.

The striking differences in the results obtained in the group of children immunized with pertussis phase I vaccine and those in the group of noninoculated sibling or familial controls is statistically significant, as shown by the standard error of the difference in the two groups. The protection conferred by injection of pertussis vaccine is greater than could have occurred by chance alone.

Not all the 530 children recorded in table 2 have been subjected to risk of exposure to pertussis under our observation for equal periods of time. The children immunized in 1935 and their respective controls have been risking exposure for the longest period.

When these groups are further segregated, according to the period of years during which they have been subjected to risk of exposure to pertussis (table 3), more detailed observations may be noted.

From the data in table 3 it will be noted that there is a slight variation in the communicability rate (percentage of exposed children who were attacked) and the protection rate (percentage of exposed children who escaped) of the immunized groups who were risking exposure for varying periods of time. It is possible that there might be an even greater variation in these rates if the children could be observed over a period of ten years. The similarity in the protection and communicability rates of the immunized children exposed to sibling or familial controls with that of the same rates for all the exposed immunized children is significant. It is not to be expected that all the children will acquire or maintain an absolute resistance to this disease as a result of having received injections of vaccine. When these data are compared with the data of the control series it would appear that there is good evidence of considerable protection having been conferred by pertussis vaccine.

It is rather striking (table 3) that there have been no known exposures and no cases of pertussis among any of the children who have been added to our study since Jan. 1, 1938. I shall attempt to account for the absence of exposures in the latter group.

There are a number of factors which will contribute to chance of exposure; namely, the age of the child, the period of risk and the incidence of the disease during the period of risk. In order to determine the influence of the two latter factors on the number of exposures which occurred in the 530 cases in this series we have segregated them into four groups, dependent on which twelve month period they entered our series. These twelve month periods correspond to the four twelve month periods shown in charts 1 and 2, so that our results may be compared with the incidence of the disease in San Francisco. An analysis of the number of exposures which occurred in each group just described would indicate that, with the increase in the number of twelve month periods at risk, the number of exposures in the groups increases accordingly, provided pertussis also has been prevalent in the community during that time. These data are shown in table 4.

It will be seen that the peak of exposures observed in the 530 children (pertussis vaccine group and sibling or familial controls) occurred during the period in which the disease was most prevalent in San Francisco.

The percentage of the total number of children exposed during the entire period of risk would appear to be reaching a rather constant figure as the period of observation increases.

The age of the child may have some influence on the chance of exposure; 57.2 per cent of the children in our test series have received injections of pertussis vaccine before the age of 1 year. Except in instances of sibling or familial contact the chance of this age group being exposed to pertussis is considerably lower than that of the runabout or preschool age group.

In availing ourselves of sibling or familial controls we have encountered a disproportion in the age distribution of the children in the test and the control series. Chart 3 summarizes the age groups of the children in both the pertussis vaccine and the control series. It should be pointed out, however, that the age groups shown in chart 3 refer to the age of the respective children at the time they were first brought under observation, in the case of the control group, and at the time when pertussis vaccine was given, in the case of the immunized group.

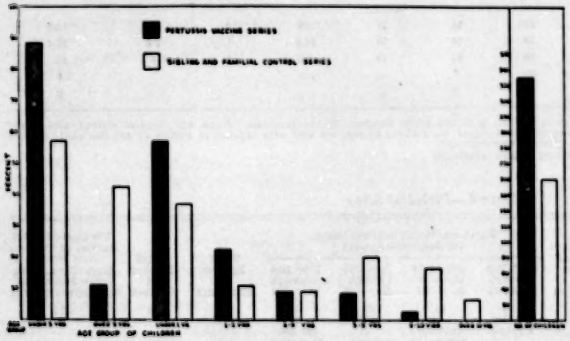

Chart 3.—Age of children in the pertussis vaccine and control series. The age groups shown represent the age of the children at the time they were entered into our study.

At the time pertussis vaccine was given, 88 per cent of the total number of children inoculated were under 3 years of age and only 12 per cent were between 3 and 10 years. When the total number of immunized children is further broken down into the respective twelve month periods in which vaccine was given, this age distribution is found to be consistent. In the control series the number of children under 3 years (57 per cent) and over 3 years (46.0 per cent) is more equally divided. It is conceivable, therefore, that the risk of exposure to pertussis is greatest in the control series, since a larger proportion of them are in the runabout, preschool or school age group, whereas in the vaccine series a larger proportion of the children are in the age group which is less likely to encounter exposures to pertussis. In spite of this discrepancy in the age groups of the two series there is a close similarity in the percentage of the total number exposed in each group (tables 2 and 3).

An analysis of the interval (number of months) elapsing between immunization and exposure to pertussis is shown in chart 4. The age of the child at the time exposure occurred is shown in chart 5. These data would indicate that the majority of the sixty-four children in the vaccine series did not encounter expo-

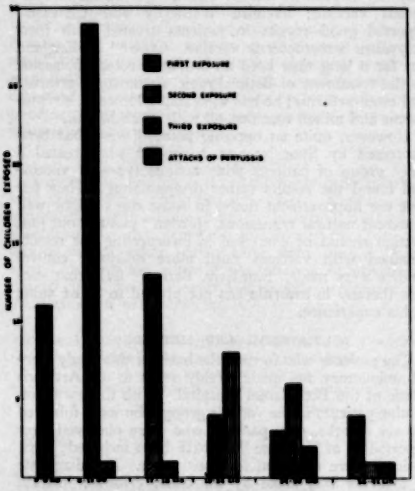

Chart 4.—Number of months elapsing between injection of pertussis vaccine and exposure to the disease.

sure to pertussis during the first year of life but during the runabout and preschool age.

Between 50 and 60 per cent of the children in our series received vaccine injections under the age of 1 year (between 6 months and 1 year). The children who were entered into the series since Jan. 1, 1938, reached the runabout age (during which the highest incidence of exposures occurs) at a time when the incidence of the disease was very low. These factors undoubtedly can account for the absence of exposures and cases in this portion of our series.

Sixty-four immunized children have been exposed to pertussis at least once (chart 5). Four cases developed as a result of the first exposure. Seventeen of the sixty-four children have been exposed twice. One child escaped the disease after the first familial exposure but contracted pertussis on subsequent exposure two years later. Infective dosage may be presumed not only to have been large (proved bacteriologically) but repeated; he had had daily contact with three foster children from the onset of their pertussis. Sixteen other children similarly exposed a second time did not show symptoms, nor did the five children who had been directly exposed three times. Infective dosage in all these instances of multiple exposures has been great, yet no manifestations of the disease could be discerned. We have observed our group very closely for a repetition of this phenomenon of lost resistance, but to date we have not encountered a similar experience. Undoubtedly if these groups are followed over a sufficiently long period this observation will be repeated.

What is the nature of the mechanism that caused this individual to be resistant to pertussis at one time and susceptible to the disease at another? Were the sixteen other children who also have been subjected to exposure twice or the five exposed three times (repeated prolonged exposure) endowed with a more efficient immune mechanism which kept them resistant? Why are some individuals incapable of acquiring resistance to pertussis even after an attack of the disease? Second attacks (proved bacteriologically) are encountered not infrequently. The answers to these questions are not available at the present time.

GROUP 3.—*Controls.*—This additional control group in which there was no test child in the family comprises ninety-five noninoculated children who have come under our observation during the period of the study. In many instances the parents of these children refused immunization but were willing to cooperate for a follow-up study. In other instances the parents failed to keep their appointments for pertussis immunization but did return when they were in trouble; thus the knowledge of exposure to pertussis or an attack of the disease came to our attention. Only twenty-one of the ninety-five children are without siblings. The number of siblings per family for the remainder ranges between two and seven. Many of them are in the older age group. Sixty-seven of these ninety-five children have been exposed to pertussis. The high exposure rate (70 per cent) in this group can be accounted for by the high incidence of multiple members per family group. Fifty-seven of the exposed children contracted pertussis (85 per cent). Ten of the exposed children escaped attacks (14.9 per cent). In every instance in which the escape occurred, the child was over 6 years of age. All ten children were in contact with younger members of the family afflicted with pertussis throughout the entire course of the disease. All ten children had a negative history as to both a previous exposure and an attack of the disease. Whether these histories can be relied on with certainty is a debatable question.

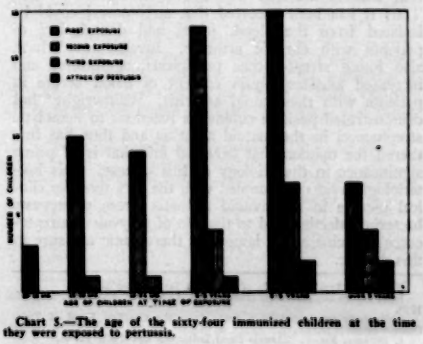

Chart 5.—The age of the sixty-four immunized children at the time they were exposed to pertussis.

Unless the child has been under observation from early infancy on it is difficult to determine with accuracy the incidence of natural resistance. Since the course of pertussis may vary anywhere between the two extremes very mild and very severe, a mild attack may well escape attention. However, since exposure to small dosage cannot always be determined with accuracy, subclinical or silent infection early in life may have played a role

in increasing the resistance to the massive dosage observed in the ten who escaped attacks in this group.

SUMMARY

An analysis of the data obtained during the past four years' observation on 796 children in our controlled study of pertussis prophylaxis strongly indicates that considerable immunity has been induced by Haemophilus pertussis phase I vaccine. The duration of this immunity, however, could not be definitely established, because observations over a longer period are necessary. The variability in the incidence of pertussis in a given community will influence the number of exposures that occur in children under observation. The variability in incidence also may play a role in altering the resistance to pertussis.

TREATMENT OF CHRONIC ARTHRITIS

RESULTS OF VACCINE THERAPY WITH SALINE INJECTIONS USED AS CONTROLS

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Despite years of experience in arthritis with vaccine therapy, given both subcutaneously and intravenously, difference of opinion still prevails regarding its value. This problem has been studied over a period of several years in the Arthritis Clinic of the Beth Israel Hospital. Our observations have been made in the past four years on a group of patients with chronic arthritis to whom vaccine therapy was given intravenously and physiologic solution of sodium chloride was given subcutaneously at weekly intervals.

Billings [1] in 1912 emphasized the frequent presence of foci of infection in patients with chronic arthritis; subsequent investigators [2] presented further evidence that chronic arthritis was due to a bacterial cause. Thus it has been reported that streptococci could be isolated from the blood, joints and distant foci of patients with chronic arthritis. Investigators [3] have also found streptococcus precipitins, agglutinins and increased antistreptolysin content of blood serum in patients with rheumatoid arthritis. Wainwright [4] has demonstrated positive cutaneous reactions to hemolytic streptococci in rheumatoid arthritis and thus has furthered the opinion that bacterial infection is of prime significance in the etiology of this disease. This bacteriologic evidence, coupled with the fact that the clinical picture in rheumatoid arthritis strongly suggests bacterial infection, led to the use of polyvalent streptococcus vaccine as an important therapeutic measure in this disease.

Occasionally striking benefit does result from vaccine therapy in chronic arthritis, but this is rare. Reports of clinical observations indicating that vaccine therapy is an effective agent in the treatment of chronic arthritis have unfortunately lacked proper controls for correct evaluation. Cecil [5] has reported improvement in the majority of patients treated with his polyvalent streptococcus vaccine; likewise Wetherby and Clawson [6] reported good results in patients treated with their polyvalent streptococcus vaccine. Crowe [7] in England has for a long time been an ardent devotee of vaccine in the treatment of both chronic rheumatoid arthritis and osteo-arthritis; he has used staphylococcus, streptococcus and mixed vaccines, all with much benefit.

However, quite an opposite point of view has been expressed by Stainsby and Nicholls,[8] who treated a large group of patients with various types of vaccine and found the results rather disappointing. They felt that the improvement noted in some cases might well represent natural remissions. Jordan [9] pointed out that caution should be exercised in interpreting the results obtained with vaccines until more adequate control studies were made. Similarly, Bauer [10] feels that vaccine therapy in arthritis has not proved to be of value in his experience.

MATERIAL AND METHODS

The patients who formed the basis of this study were all ambulatory and made weekly visits to the Arthritis Clinic of the Beth Israel Hospital. With the exception of nine patients in the vaccine group who were followed for six months, only patients who were observed over a period of at least one year have been included; some patients were observed for four years. The diagnosis of arthritis was made by the usual criteria: history, clinical appearance, roentgenographic data and erythrocyte sedimentation determinations. Of the 122 patients who comprised this group, sixty-four had chronic osteo-arthritis and fifty-eight had chronic rheumatoid arthritis.

All the patients with chronic osteo-arthritis were treated with physiologic solution of sodium chloride subcutaneously as the only form of injection therapy. Twenty-five patients with chronic rheumatoid arthritis were treated with polyvalent streptococcus vaccine intravenously, while thirty-three received physiologic solution of sodium chloride subcutaneously. The polyvalent streptococcus vaccine was given intravenously in increasing amounts at weekly intervals, starting with 50,000 organisms and reaching a maximum of 10,000,000 organisms. The saline solution was given subcutaneously in the amount of 0.5 cc. at weekly intervals. The only other treatment employed for all the patients was the use of salicylates in approximately the same dosage for each one.

Erythrocyte sedimentation tests by the method of Rourke and Ernstene [11] were made at monthly intervals on all patients. The rates that obtained for the patients with rheumatoid arthritis were much higher in

From the Arthritis Clinic of the Beth Israel Hospital.
Read before the American Rheumatism Association, St. Louis, May 15, 1939.
This study was aided by a grant from the Charlton Fund of Tufts College Medical School.

1. Billings, Frank: Chronic Focal Infections and Their Etiologic Relations to Arthritis and Nephritis, Arch. Int. Med. 9:484 (April) 1912.
2. Cecil, R. L.; Nicholls, E. E., and Stainsby, W. J.: Bacteriology of Blood and Joints in Chronic Infectious Arthritis, Arch. Int. Med. 43:871 (May) 1929. Burbank, Reginald, and Christensen, B. E.: Specific Vaccine Treatment of One Thousand Cases of Chronic Arthritis with Results and Clinical Observations, J. Bone & Joint Surg. 13:246 (April) 1931.
3. Nicholls, E. E., and Stainsby, W. J.: Streptococcal Agglutinins in Chronic Infectious Arthritis, J. Clin. Investigation 10:323 (June) 1931. Myers, W. K., and Keefer, C. S.: Antistreptolysin Content of Blood Serum in Rheumatic Fever and Rheumatoid Arthritis, J. Clin. Investigation 12:135 (Jan.) 1934.
4. Wainwright, C. W.: Chronic Rheumatoid Arthritis: Further Observations on Use of Streptococcal Vaccine, Ann. Int. Med. 9:245 (Sept.) 1935.
5. Cecil, R. L.: Rheumatoid Arthritis: New Method of Approach to Disease, J. A. M. A. 100:1220 (April 22) 1933.
6. Wetherby, Macnider, and Clawson, B. J.: Chronic Arthritis with Special Reference to Intravenous Vaccine (Streptococcic) Therapy, Arch. Int. Med. 49:303 (Feb.) 1932.
7. Crowe, H. W.: Specific Vaccine Treatment of Chronic Arthritis, J. Lab. & Clin. Med. 15:1072 (Aug.) 1930.
8. Stainsby, W. J., and Nicholls, E. E.: Results of Treatment in Rheumatoid Arthritis, with Reference to Foci of Infection and Streptococcus Vaccine, J. Lab. & Clin. Med. 18:881 (June) 1933.
9. Jordan, E. P.: Critical Evaluation of Vaccine Therapy in Rheumatism, J. A. M. A. 109:1444 (Oct. 30) 1937.
10. Bauer, W.: Personal communication to authors.
11. Rourke, M. Dorothy, and Ernstene, A. Carlton: A Method for Correcting the Erythrocyte Sedimentation Rate for Variations in the Cell Volume Percentage of Blood, J. Clin. Investigation 8:545 (June) 1930.

general than those of the patients with osteo-arthritis; however, as noted by others, the rate of erythrocyte sedimentation was not infrequently entirely disproportionate to the clinical picture.

The following criteria were employed to determine improvement: first, the statement of the patient as to his feeling of well-being; second, the duration of the period of improvement; third, the ability of the patient to do an increased amount of work; fourth, a diminution in pain, stiffness, redness or swelling of joints as noted by the patient, and finally, objective improvement in the joints as noted by us. Each patient was observed independently by both of us, and only those patients who appeared definitely improved have been so considered in this series.

RESULTS OF TREATMENT

Twenty-four (72 per cent) of the thirty-three patients with rheumatoid arthritis who were treated subcutaneously with saline solution benefited distinctly; seventeen (68 per cent) of the twenty-five patients treated intravenously with vaccine were likewise benefited. Most of the patients who showed improvement did so after the first several injections, a number of them after the first injection.

TABLE 1.—*Data on Ninety-Seven Patients with Chronic Arthritis Given Injections of Physiologic Solution of Sodium Chloride*

	Rheumatoid Arthritis, 32 Patients					Osteo-Arthritis, 64 Patients				
Age, years	20-30	30-40	40-50	50-60	60-75	20-30	30-40	40-50	50-60	60-75
	7	11	9	1	5	1	5	24	16	16
Sex	Male			Female		Male			Female	
	14			19		27			37	
Sedimentation index	0.1-0.4		0.5-1.0	1.0-2.5		0.1-0.4		0.5-1.0	1.0-2.5	
Before injection	1		9	22		8		49	7	
After injection	6		15	14		19		41	4	
Period of observation	1-2 Yr.		2-3 Yr.	3-4 Yr.		1-2 Yr.		2-3 Yr.	3-4 Yr.	
	10		15	6		17		39	8	

Fifty-six (86 per cent) of the sixty-four patients with chronic osteo-arthritis, all of whom were treated with saline injections, showed definite improvement. Combining the two groups treated with saline solution, eighty (82 per cent) of the ninety-seven patients with chronic arthritis showed improvement while receiving injection therapy.

There was less correlation between the symptoms of the patient and the level of the erythrocyte sedimentation rate after injection therapy was instituted. Many patients who claimed marked improvement showed no reduction in their elevated sedimentation rates, while some patients who had a fall in the rate of erythrocyte sedimentation had no symptomatic improvement.

COMMENT

Our study is an attempt to clarify the value of vaccine therapy in chronic arthritis. This group of 122 patients consisting of those with rheumatoid arthritis (fifty-eight patients) and osteo-arthritis (sixty-four patients) may serve as a fair cross section of the patients with chronic arthritis encountered in clinical and private practice. Also, the observation period of six months to four years seems sufficient to allow proper evaluation of results. Therapeutic benefit in any chronic ailment must be evaluated critically because of the many factors involved. Not the least of these is the psychologic factor, and the effect of enthusiastic administration must be taken into account as well as the agents employed. This is especially true in a prolonged, discouraging type of illness such as chronic arthritis, and any hope of relief is welcomed by the patient seeking some tangible method of help. Perhaps the various reports of successful treatment with vaccine injections in arthritis show a high percentage of improved patients more because of the psychologic effect of the needle puncture than of the substance injected.

TABLE 2.—*Data on Twenty-Five Patients with Rheumatoid Arthritis Given Polyvalent Streptococcus Vaccine Intravenously*

Age, years	20-30	30-40	40-50	50-60	60-70
	4	8	10	2	1
Sex	Male			Female	
	7			18	
Sedimentation index	0.1-0.4		0.5-1.0	1.0-2.5	
Before injection	0		16	9	
After injection	1		14	10	
Period of observation	6-12 Mo.		12-15 Mo.	15-18 Mo.	
	9		12	4	

Also one cannot neglect the element of natural remission in chronic arthritis. This is recognized by every one yet has been insufficiently stressed by many investigators who have employed therapeutic agents. The combination of anxiety on the part of the patient to have something done, with the incidence of natural remission, may explain the improvement in many cases.

Various workers from time to time have expressed the following views: First, bacteriologic and clinical evidence indicate that chronic arthritis is an infection that is frequently helped by the use of polyvalent streptococcus vaccine; second, chronic arthritis is a disease of frequent, natural remissions, which explain the benefit noted with vaccine therapy; third, no definite stand should be maintained as to vaccine therapy until adequate control studies are made; fourth, the psychologic effect of the injection itself must be evaluated. The evidence which we have been able to gather does not substantiate the idea that any specific substance is of value in injection therapy of arthritis. Many observers using various forms of injection therapy and using essentially the same criteria for improvement have obtained benefit in from 60 to 75 per cent of cases regardless of the agent employed, a percentage level somewhat lower than we found in our ninety-seven cases in which saline injections were administered. Striking beneficial results from vaccine therapy may occasionally occur, but as noted previously a number of our patients treated with saline solution claimed much improvement after the first few injections. There is no reason to believe that small amounts of physiologic

TABLE 3.—*Results of Injections in 122 Cases of Chronic Arthritis*

	Rheumatoid Arthritis (Saline Injection)	Rheumatoid Arthritis (Vaccine Injection)	Osteo-Arthritis (Saline Injection)
Improved	24 (73%)	17 (68%)	56 (88%)
Not improved	9 (27%)	8 (32%)	8 (12%)
Total number of cases	33	25	64

solution of sodium chloride given subcutaneously can produce a nonspecific protein-like effect, and therefore we must conclude that the injection itself rather than the substance injected must be credited with whatever improvement followed.

That weather changes, emotional strain and anything that induces lessened resistance will affect patients with chronic arthritis adversely is generally recognized, and of these various conditions that tend to reactivate or aggravate this disease we have been particularly impressed by the frequency with which the emotional factor is encountered. Perhaps it is less clearly recognized that improvement may be influenced when a physician shows interest in this discouraging chronic ailment and gives encouragement, especially when the interest takes a tangible form such as frequent needle injections.

The twenty-five patients treated with polyvalent streptococcus vaccine intravenously responded essentially in the same manner as the patients who were treated with saline solution. There is a close correlation between the results that we observed in these cases and the observations of other investigators who have used polyvalent streptococcus vaccine. We believe it fair to conclude that saline injection therapy is as effective in chronic arthritis as polyvalent streptococcus vaccine.

SUMMARY

One hundred and twenty-two patients with chronic arthritis were observed for from six months to four years; treatment consisted of weekly subcutaneous injections of 0.5 cc. of saline solution in ninety-seven cases and intravenous injections of polyvalent streptococcus vaccine in the remaining twenty-five.

Sixty-four of the patients had chronic osteo-arthritis, all of whom were treated by saline injections. Fifty-six, or 86 per cent, of these patients were improved.

Of fifty-eight patients with chronic rheumatoid arthritis, thirty-three were treated with saline injections and of these twenty-four, or 72 per cent, were improved; twenty-five were treated with polyvalent streptococcus vaccine intravenously and seventeen, or 68 per cent, were improved.

The psychologic effect of the injection itself rather than the substance injected seems important. This factor, plus the tendency to natural remission in chronic arthritis, may explain the high percentage of improvement.

483 Beacon Street—475 Commonwealth Avenue.

Rancidity Destroys Vitamin E.—The richest sources of vitamin E are green leaves and the embryos of seeds. Smaller amounts are found in many foods, the most important being the fat and muscle of animals and milk and eggs. The vitamin is very stable to heat, light, and being dried, but is rapidly destroyed by rancid fat. This is important, as rancid fat in the diet may destroy any vitamin E taken at the same time in other foods, and rancidity for instance in butter will, of course, destroy its own vitamin value even before it is eaten. . . . The diet of most people must be, at best, near the borderline of a vitamin E deficiency: a borderline which is easily passed if there is any difficulty in absorption from the bowel, or an unduly high consumption, for any reason, by the body. Only relatively small amounts of green vegetables are eaten. While dairy produce forms a large part of the food of the richer classes, there is the fact that the amount of vitamin E in milk and eggs depends on the diet of the cows and hens, a diet which itself is now often highly artificial and of low vitamin value.—Bicknell, Franklin: Vitamin E in General Medicine, *M. Press*, Feb. 28, 1940, p. 174.

HISTAMINASE IN THE TREATMENT OF ALLERGY

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AND
GEORGE PINESS, M.D.
LOS ANGELES

The theory that the liberation of histamine in the tissues is the immediate cause of the signs and symptoms of allergy has led to the use of its antagonist, the enzyme histaminase, for the prevention and alleviation of these phenomena. Elsewhere we[1] have discussed in more detail the theoretical considerations pro and con of this use of histaminase. Here we shall concern ourselves only with the report of the results of the clinical trial of histaminase as a therapeutic and prophylactic drug.

For a fairly complete review of the clinical experience of others, we refer to Laymon and Cumming's[2] recent publication of their presentation before the Society for Investigative Dermatology. This, together with the accompanying discussions of the other members of the society, leaves the impression that the clinical value of the use of histaminase is highly questionable. In view of this conclusion, our only reason for presenting this report is the fact that the manufacturers of histaminase have recently offered their product to the profession at large as an efficient remedy for a variety of clinical disturbances.[3]

Since June 1939 forty-two patients (twenty-eight with urticaria) were treated with histaminase.[4] The enzyme was administered in enteric coated capsules between meals and with from one to two glasses of water. In no case could it be stated unequivocally that histaminase was effective in alleviating or preventing symptoms, for reports of good results were open to several interpretations and their evaluation is difficult. If we use the criterion that the efficacy of the enzyme can be measured by the frequency with which patients requested more of the substance when their supply became exhausted, we find only four such requests, and these only by patients who prior to treatment suffered from intermittent urticaria, which of course made correlation with therapy difficult.

Another difficulty arose from the frequency with which patients first reported relief from urticaria only to have a persistent recurrence shortly thereafter, despite the administration of large doses of the enzyme over prolonged periods. This coincides with the oft repeated experience in the treatment of urticaria by whatever means undertaken.

The difficulties in judging the efficacy of a remedy in so capricious a disease as urticaria are obvious. It is notorious that urticaria has a high psychogenic factor in its inception, persistence and cure, so that attempts to evaluate the effectiveness of any therapeutic measure is hazardous. Witness the innumerable remedies to be found in medical literature. Being aware of this, we treated five patients suffering from chronic allergic

1. Miller, Hyman, and Piness, George: Histaminase in Allergy: A Study of Its Effect on Skin Reactivity to Histaminase and to Allergy, to be published.

2. Laymon, C. W., and Cumming, H. A.: Histaminase in the Treatment of Urticaria and Atopic Dermatitis, J. Invest. Dermat. 1: 301 (Dec.) 1939.

3. "Torantil: Treatment of Allergies by Detoxication of Histamine with Histaminase," Winthrop Chemical Company, Inc.

4. The histaminase was furnished by the Winthrop Chemical Company and identified by them first as product T. 360-K and later as T-360-K.V. The enzyme, contained in enteric coated capsules, was described as being derived from hog's kidney and the unit of activity as "the amount which will inactivate 1 mg. of histamine hydrochloride during incubation at 37.5 C. for twenty-four hours." A preparation of a solution of histaminase in ampules was also provided and was said to assay at 0.75 unit to the ampule.

dermatitis, five with allergic bronchial asthma and three with chronic allergic nasal allergy. In no instance was there the slightest relief in these examples of the less capricious manifestations of allergy.

RESULTS

Reference to the accompanying table shows that seven patients declared that some relief had been obtained from the use of the enzyme. All these patients suffered from urticaria. In no instance was it felt that this relief could be unequivocably attributed to the use of the enzyme. Thus, in case 1 the enzyme was administered twenty-four hours after the onset of an attack of urticaria. Reporting the following day, the patient stated that there had been complete relief. This was six months ago and there has been no recurrence. However, an exactly similar episode without the use of histaminase was observed about a year before.

Patient 7 declared that there was relief from itching despite the fact that there was no cessation of the urticaria. In this case the urticaria was directly attributable to injections of solution of posterior pituitary. After each dose of this substance there was an exacerbation of symptoms, but despite complete discontinuance of the substance some urticaria persisted intermittently. On recurrence of the lesions the patient would immediately take a capsule. Within a short time the itching disappeared and therapy with the enzyme was discontinued, whereupon after a longer or shorter interval of freedom the whole process was repeated.

Patient 10 had urticaria for one week after the administration of one dose of solution of posterior pituitary. The enzyme was administered immediately after the onset of the urticaria, which shortly afterward disappeared and has not recurred.

Patient 12 had urticaria for one day before receiving histaminase and reported that there was a cessation of the urticaria within twenty-four hours, at the end of which time the enzyme was discontinued and there has been no recurrence.

Patient 16 had seasonal urticaria solaris, which seemed to itch somewhat less while taking histaminase, but this coincided with that time of the year in which the patient usually improved.

Patient 24 had urticaria after the administration of antigen and declared that one or two capsules of the enzyme relieved the itching of the urticarial lesions after subsequent injections. However, during this subsequent period the dose of antigen was reduced, with complete relief of symptoms, without the administration of enzyme.

Patient 26 had intermittent urticaria after one injection of solution of posterior pituitary. With each onset of urticaria the patient was accustomed to take one or two capsules of the enzyme, feeling that this cut the attack short. However, the discontinuance of the enzyme did not result in an immediate recurrence of symptoms, suggesting that the taking of the enzyme might have had little to do with the cessation of the symptoms.

Added evidence of the effect of histamine on allergic lesions was sought by administering the enzyme while patients were being given intradermal tests. Patients 3, 4, 7, 8, 9, 11, 12, 17, 18, 21 and 23 were given

Use of Histaminase in Allergy

Case	Diagnosis	Duration	Days Treated	Daily Dose, Units (Oral)	Result	Comment
1	Urticaria	1 day	1	45	Relieved	One similar previous attack of urticaria subsided spontaneously
2	Urticaria	1 mo.	6	45	No relief	Urticaria caused by injection of antigen not prevented by histaminase
3	Urticaria	1 mo.	14	9	No relief	
4	Urticaria	1 wk.	10	60	No relief	Urticaria caused by injection of antigen not prevented by histaminase
5	Urticaria	2 mos.	14	75	No relief	At first seemed to relieve symptoms
6	Urticaria	8 yrs.	7	45	No relief	
7	Urticaria	1 mo.	90	45	Relieved	Symptoms intermittent prior to taking histaminase; still intermittent
8	Urticaria	1 mo.	14	45	No relief	At first seemed to relieve symptoms
9	Urticaria	.....	90	45	No relief	
10	Urticaria	1 wk.	14	30	Relieved	Urticaria caused by one injection of solution of posterior pituitary
11	Urticaria	1 mo.	30	45	No relief	Recurrence at varying intervals on stopping treatment
12	Urticaria	1 mos.	240	75	Relieved	Relief chiefly of itching; not of urticaria
13	Urticaria	1 yr.	7	90	No relief	Some alleviation of urticaria caused by sun
14	Urticaria	1 day	1	15	No relief	
15	Urticaria	2 mos.	14	45	No relief	Urticaria caused by injection of antigen not prevented by histaminase
16	Urticaria	4 mos.	7	45	Relieved	Some alleviation of urticaria caused by sun; usually clear at this time of year
17	Urticaria	3 yrs.	21	75	No relief	
18	Urticaria	1 yrs.	90	90	No relief	
19	Urticaria	12 yrs.	180	30	No relief	Less urticaria but not complete relief
20	Urticaria	1 mo.	30	9	No relief	
21	Urticaria	3 yrs.	30	60	No relief	
22	Urticaria	2 wks.	4	45	No relief	Took one unit hypodermically each day with capsules by mouth
23	Urticaria	15 yrs.	7	60	No relief	
24	Urticaria	3 wks.	90	30	Relieved	Urticaria began after injection of solution of posterior pituitary and persisted intermittently; takes histaminase only if urticaria recurs
25	Urticaria	40 yrs.	21	45	No relief	
26	Urticaria	1 mo.	90	15	Relieved	Urticaria intermittent; histaminase taken only if urticaria recurs
27	Urticaria	1 day	1	30	No relief	
28	Urticaria	7 yrs.	30	45	No relief	One unit hypodermically in addition to oral
29	Urticaria	1 wk.	7	45	No relief	
30	Allergic dermatitis	12 yrs.	30	60	No relief	
31	Allergic dermatitis	3 yrs.	90	60	No relief	
32	Allergic dermatitis	20 yrs.	17	75	No relief	
33	Allergic dermatitis	17 yrs.	30	75	No relief	
34	Allergic dermatitis	2 yrs.	21	105	No relief	Three units hypodermically in addition to oral
35	Asthma	7 yrs.	7	75	No relief	
36	Asthma	2 yrs.	7	60	No relief	
37	Asthma	7 yrs.	7	60	No relief	
38	Asthma	30 yrs.	7	60	No relief	
39	Asthma	13 yrs.	7	45	No relief	
40	Hay fever	28 yrs.	7	45	No relief	
41	Hay fever	20 yrs.	7	30	No relief	
42	Hay fever	5 yrs.	7	45	No relief	

intradermal tests during the administration of large doses of histaminase and despite this gave specific protein reactions of the usual urticarial character. That the specificity was of clinical significance was confirmed by correlation with relief of symptoms on avoiding the reacting allergens. Furthermore, in four instances (cases 2, 3, 4 and 15), urticaria resulting from the administration of a pollen or epidermal antigen was not prevented by the administration of histaminase.

Despite the fact that the average dose of enzyme was from 60 to 75 units in twenty-four hours, with a maximum of 102 units (case 33), and the longest period of consecutive treatment was 180 days (case 19), there were few untoward side reactions. In two cases (3 and 31) there was a sense of sluggishness. Patient 5 complained of giddiness and weakness. Patient 22 felt "jittery" and patient 19 found that the enzyme acted as a diuretic.

SUMMARY AND CONCLUSIONS

The treatment of forty-two allergic patients with histaminase failed to give unequivocal evidence that this enzyme was responsible for the relief or prevention of any of the signs or symptoms of which the patients complained.

672 South Westlake Avenue.

Clinical Notes, Suggestions and New Instruments

HAS DISEASE OF THE LIVER ANYTHING TO DO WITH THE CAUSATION OF MIGRAINE?

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There is many a patient with migraine or "sick headache" who feels sure that the seat of the trouble must be in the liver, perhaps because in the attacks much green bile is vomited. Actually the appearance of bile during vomiting need mean only one thing, and that is that before or during the act there was reverse peristalsis in the upper part of the small bowel. That reverse waves in the bowel commonly do precede vomiting has been shown by several physiologists, and it is well known to surgeons.

So far as we can learn from looking through the literature, only one or two investigators have found signs of disease of the biliary tract in patients with migraine, and they did it by examining sediments from material obtained through a duodenal tube with the Lyon technic. Actually, we doubt whether those men who have made a particular study of disease of the liver would accept such evidence as conclusive.

Against the idea that the liver is diseased in cases of migraine is the evidence gathered through the years by one of us (W. C. A.) with the Rowntree-Rosenthal test, which time and again failed to show any sign of defective function. The experience of years has left the impression also that the removal of even a badly diseased gallbladder seldom alters the frequency or severity of attacks of migraine.

A while ago it occurred to the senior author that, if disease of the liver is really a common cause of migraine, the incidence of this type of headache should be high in cases of frank and easily demonstrable disease of the liver. Accordingly, the junior author searched the histories of 215 patients (152 men and sixty-three women) who had been found to be suffering with definite hepatic or biliary tract disease. The commonest diagnoses made in these cases had been cirrhosis, jaundice of the obstructive, intrahepatic, hemolytic or familial types, cholangitis, primary hepatic insufficiency, and carcinoma of the liver.

From the Division of Medicine, the Mayo Clinic.

Twenty-seven per cent of these 215 patients mentioned a tendency to headache, but in only 7 per cent (of the whole group) was this definitely migrainous in character. In order to get a control series, 216 histories, selected only so far as they did not reveal signs of hepatic or biliary disease, were drawn at random from the file of patients seen in the same two sections of the clinic in which most of the patients with hepatic and biliary disease were studied. There were 112 males and 104 females, and the ages ranged from 16 to 75 years, about as they did in the first group. The commoner diagnoses made had been duodenal ulcer, neurosis, hypertension, arthritis, and leiomyoma of the uterus. Thirty-one per cent of these patients complained of headache and 14 per cent complained of migraine.

These figures indicate that migraine was encountered twice as frequently in the control group of cases as in the cases of liver injury. The figures certainly do not support the idea that disease of the liver is the cause of migraine. If they indicate anything, it is that disease of the liver protects the patient from migraine. In this connection it is interesting to note that Dr. Hertzler tells us that the only time in his life when he was free from migraine was when he was jaundiced. Dr. Hench knows a man who had a similar experience.

Careful study of the sixteen cases in which migraine and liver disease were associated showed that in eight the migraine either disappeared or became less severe after the disease in the liver made its appearance. Two men with an intrahepatic type of jaundice had only rare and mild headaches after the onset of the disease in the liver. In one case the relief of the headaches came several months before jaundice appeared, showing that the beneficial effect came from the hepatitis and not from the presence of bile in the blood.

Another man who had suffered with migraine all his life became almost cured when he developed signs of cirrhosis of the liver. A man who had had severe migraine since puberty was completely relieved for two years after the onset of attacks of cholecystitis with jaundice. A life long migraine of three other patients with cirrhosis of the liver or cholecystitis with stones was greatly helped by the onset of the new disease.

SUMMARY

Probably because they so often vomit bile, patients with migraine commonly place the blame for their distress on some trouble with the liver.

A search through the literature showed but little evidence in support of this theory. If it were correct, patients with cirrhosis of the liver and diseases of the biliary tract should be highly subject to migraine. A study of the records of 215 such patients showed that 7 per cent had suffered with migraine. In a control group of 216 histories of patients without demonstrable disease in liver or bile ducts, note had been made of migraine in 14 per cent.

In the group of patients with liver disease, half of the patients with migraine either lost the headaches or had fewer and milder ones after the appearance of jaundice or other symptoms of cirrhosis or biliary tract disease. The evidence indicates, then, that if disease of the liver and its ducts has any effect on migraine it is a beneficial one.

A CONVENIENT METHOD FOR ADMINISTERING CONCENTRATED OXYGEN IN THE TREATMENT OF MIGRAINE

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In accordance with the suggestion of Alvarez,[1] the inhalation of pure oxygen is being used in the treatment of migraine. It is therefore appropriate to call attention to the feasibility of using the ordinary basal metabolism testing apparatus for the administration of concentrated oxygen.

The apparatus is arranged as for testing the basal metabolic rate except that the kymograph and recording device are not started. The oxygen bell is watched and refilled as necessary.

This method of administering concentrated oxygen has proved a very convenient office procedure.

71 River Street.

1. Alvarez, W. C.: A New Treatment for Migraine, Proc. Staff Meet., Mayo Clin. 14:173 (March 15) 1939.

FIXATION OF FRACTURE WITH METAL PLATE: AN UNUSUAL CASE

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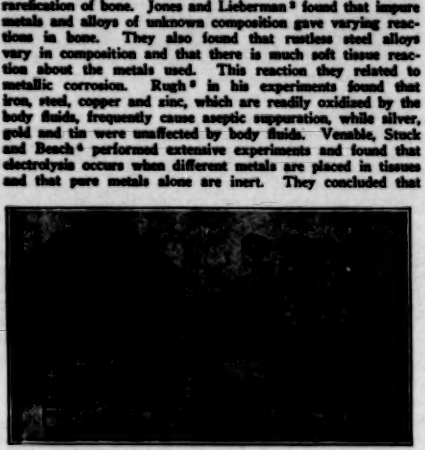
The advisability of using metal plates and screws in the fixation of fractured bones has long been a controversial subject. Hamilton Bailey[1] pointed out that metal causes rarefication of bone. Jones and Lieberman[2] found that impure metals and alloys of unknown composition gave varying reactions in bone. They also found that rustless steel alloys vary in composition and that there is much soft tissue reaction about the metals used. This reaction they related to metallic corrosion. Rugh[3] in his experiments found that iron, steel, copper and zinc, which are readily oxidized by the body fluids, frequently cause aseptic suppuration, while silver, gold and tin were unaffected by body fluids. Venable, Stuck and Beach[4] performed extensive experiments and found that electrolysis occurs when different metals are placed in tissues and that pure metals alone are inert. They concluded that



Fibrous sac, resembling a gallbladder, containing grayish brown fluid and three small "stones" removed from a thigh twelve years and eight months after fixation of a fractured femur with a Lane plate. Metal plate, screws, small pieces of metal and pieces of thickened periosteum are shown at the right.

electrolytic action causes the formation of irritating metallic salt solutions in local fluids. The reaction against it leads to the excessive proliferation of cellular and fibrous tissue, which is protective, and the inhibition of some which is destructive. In view of the foregoing conclusions and experimental results, we present this case because of its unusual aspects and as a matter of record:

REPORT OF CASE

One of us, H. A., was struck by a car April 15, 1926, being 14 years of age at the time. An oblique simple fracture of the left femur was sustained, at the junction of the upper and middle thirds. An open reduction was performed, fixation being maintained with a Lane plate. Seven weeks after reduction, the patient was started walking, the plaster cast having been removed one week previously. A fall was sustained the day walking was begun and the femur bowed laterally to a marked degree with no separation of the fragments. The bone was straightened manually to a nearly normal anatomic alinement, with no detectable shortening. The cast was reapplied for another eight weeks. Weight bearing was then cautiously begun with the use of crutches. Convalescence continued without incidence. Within the next three years the patient grew rapidly and 1½ inches (3.8 cm.) shortening of the left femur occurred. The heels of his shoes were reconstructed to compensate for this deformity and no further trouble was experienced for twelve and one half years.

Dec. 31, 1938, a dull pain was experienced over the old fracture site. There was also a "snapping" sensation experienced with each step. On examination a small mass about the size of a walnut was palpable in this area. The mass was soft, slightly fluctuant, nontender and with no redness. Attempts at aspiration were unsuccessful.

Jan. 3, 1939, the patient was taken to the operating room, where the mass and plate were removed by C. H. S. The bulging mass was encountered at once beneath a thin subcutaneous fibromuscular layer of tissue. When this was opened, some gray-brown fluid and three "stones" the size of small marbles were removed. The sac had the appearance of a gallbladder with stones and went down to the periosteum and the lowest screw in the plate. The sac was removed. The periosteum covering the remainder of the bone plate, when incised, disclosed more gray-brown fluid. Two screws were loose but in place. The other two screws were still solidly fixed in position. The screws and plate were removed. The periosteum was discolored and slightly thickened, and small flakes of iron (?) from the bone plate were removed. The wound was thoroughly cleansed and closed. Recovery was uneventful.

Pathologic examination revealed the muscle and fascia to have a chronic inflammatory reaction. The "stones" had a center composed of darkly stained tissue and old blood, surrounded by a thick fibrous wall.

COMMENT

In the case here presented an unusual reaction was manifested about a metal plate used in the fixation of a fractured femur twelve years and eight months after reduction had been performed.

From the Orthopedic Department of Butterworth Hospital, Grand Rapids.

1. Bailey, Hamilton: Lancet 1:820-821 (April 30) 1939.
2. Jones, Laurence, and Lieberman, E. A., Jr.: Interaction of Bone and Various Metals, Arch. Surg. 28:990-1008 (June) 1934.
3. Rugh, J. T.: J. Bone & Joint Surg. 20:722-723 (Oct.) 1938.
4. Venable, C. S.; Stuck, W. G., and Beach, Ann: Ann. Surg. 105:917 (June) 1937.

Special Article

THE PHARMACOPEIA AND THE PHYSICIAN

THE TREATMENT OF COLIC IN INFANTS

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This is one of the second series of articles written by eminent authorities for the purpose of extending information concerning the official medicines. The twenty-four articles in this series have been planned and developed through the cooperation of the U. S. Pharmacopeial Committee of Revision and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—ED.

Few common disturbances in infancy are so distressing to members of the immediate family, so puzzling and worrisome to the physician and nurse but so free from untoward consequences to the patient as the paroxysms of so-called colic. The majority of babies have more or less of this during the first two to five months of life, a time which might well be called the hypertonic period of early infancy.

In actual practice it has been found that time-honored household remedies are ineffective, and the practitioner has not always found it simple to furnish relief. However, medical treatment and the maintenance of a special regimen can be entirely successful. The handling of truly neuropathic infants will require a somewhat different procedure.

NORMAL BEHAVIOR IN NEWBORN PERIOD

The newborn infant begins with those behavior patterns which persist from fetal life, namely, inborn reflexes. He acquires new patterns, sometimes desig-

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nated as conditioned responses, which are related to the experiences of the changed environment, some due to dependence on the mother and others to the new independent existence. The neonatal brain is highly sensitive and plastic, responding, as it seems to the observer, in an unduly active manner to impressions. As a new, freshly charged electric battery will cause the starter to react immediately and vigorously, so the brain and nervous system of the normal infant in the early months of life respond intensively to transmit impulses throughout the body.

Under a quiet, undisturbing, favorable environment the newborn infant in the nursery tends to be drowsy except for a short period before meals. One gains the opinion that vigorous crying is apt to come from the more physically mature specimens. But the attack of unexplained crying may stop as suddenly as it began through such an expedient as placing a rubber nipple in the mouth or turning the infant quietly to the prone position. The newborn often display some evidence of discomfort on being handled, especially if the head or legs are flexed forward.

The Startle Reflex.—Significant in newborn infants is a phenomenon which can be brought out easily by the observer who sharply strikes the sides of the crib or the mattress close to the infant's head. This startle reflex of the body, sometimes called the "embrace reaction," first described by Moro,[1] of Heidelberg, is found to appear in infants at about the sixth day, reaching its height at about 1 month and persisting for three months or more. It consists of a prompt spreading of the arms, followed by a bowing or arching of both of them as they are brought forward toward each other, often with an accompanying vibration of the forearms.

Other somatic movements also occur. The gradual disappearance of this reflex is probably due to conditioning through the development of inhibitions. McGraw [2] has discussed the subject of this reflex and the progressive changes in the pattern. Crying is usually an accompaniment of the manifestation. Moro thinks that the phenomenon is doubtless dependent on frightening the child.

BEHAVIOR FOLLOWING THE NEWBORN PERIOD

Generally within a few days after the infant has been removed from the hospital, about its third or fourth week, he becomes more wakeful, more restless and more easily disturbed, and the tendency to cry suddenly develops without warning or apparent cause. It has long been the custom to regard these piercing outbursts as due to intestinal pain, possibly from distention by gas or from the effect of indigestion. Other explanations popular in the home ascribe the crying to gastric discomfort from ingestion of air, to hunger pains from inadequate breast or bottle milk, to unsuitable food, to nervousness of the nursing mother, to a lack of richness in the breast milk, if a formula is being fed, to the fact that it does not agree with the child—a fact which should be obvious if there are undigested stools.

Conditions are not bettered by changes in the frequency of feeding hours or by new types of food. If the child has been obviously underfed more food should be used; but it may not improve the nervous conditions. Undernourishment can easily result from the frequent, unwise changes.

1. Moro, E.: Das erste Trimenon, München. med. Wchnschr. **65**: 1147-1150, 1918.
2. McGraw, Myrtle B.: Growth: A Study of Jimmy and Johnny, New York, D. Appleton-Century Company, 1935, p. 58.

INTERPRETATION OF COLIC

It has seemed to me for several years that the piercing cry or screaming of the young infant should be considered a feature, an outgrowth of the startle reflex, or a physiologic reaction comparable to it. The fact that colic disappears at from 3 to 5 months of age can be explained on the basis of the development of inhibitions. It has been stated that there are progressive changes in the pattern of the Moro reaction. As already mentioned, the height of the motor responses to this reflex is found at about 1 month of age, and the feature of immoderate crying may remain for several months as a method which the infant has for meeting situations which startle.

The infant is more apt to have paroxysms of screaming if staying in the home than in the hospital. In the narrow walls of the bedroom the crying of the infant reacts on the mother, so that she may be constantly in tears and lose sleep and appetite, all of which would undoubtedly interfere with her milk production. This emotionalism is present in most young mothers in the early months, a result possibly of the state of glandular exhaustion following pregnancy. When the infant screams, the mother cries; this likewise seems natural, since the infant was so recently physically united to the mother. Whether the emotional state makes the supply of breast milk inadequate—and it would seem possible—the mother can hardly be fit to manage the situation.

IMPROVING THE ENVIRONMENTAL CONDITIONS

A complete change in the management of the infant is needed. The most important is the establishment of absolute quiet. The average home in urban communities is not conducive to the undisturbed sleep of an infant during the time of day when colic is proverbial, from early afternoon till 10 p. m. or later. There have been many attempts to explain the fact that most infants will have their crying paroxysms at this hour. They may sleep deeply from exhaustion for the remainder of the night and the forenoon. One attempted explanation has assumed that there is a marked decrease in the maternal milk in the latter half of the day. But the infant may continue to be disturbed when additional food is furnished in abundance.

It is more probable that in the interruption of the orderliness and quiet of the home the infant is actually disturbed and startled. The complex mechanism and program in the home consist of many factors too numerous to enumerate, the chief being the door bell, the radio, the telephone, the activities of various members of the household, the visits of friends, the many services from tradesmen and the street noises. These disturb not only the infant but the mother. Lights are often kept burning so that the mother may see that the infant is covered or breathing. An infant rests better in a darkened room, especially during the hypertonic period. Most voices are sufficiently loud, sudden or harsh to awaken the infant with a start. One can demonstrate this easily in the physician's office by raising the tone of voice; one can show likewise the sedative influence by speaking in low quiet tones in quieting the infant's cry.

The infant should be kept in a well ventilated and softly lighted room; there should be freedom from overdressing and from unhygienic conditions such as wet soiled clothes. Many of these infants cry all during the arduous daily bath, which should be reduced to a few minutes.

It is well to avoid unnecessary handling, but the child should be taken up and held quietly and gently for a period before and during feeding. He may be given adequate outdoor air and sunshine in suitable weather at a regular hour daily. A minimum of attention directed by adults toward this infant will quiet the condition. All handling should be done slowly and without startling, the movements of the attendant resembling that of slow motion as seen occasionally in the movies. It should be borne in mind that the "colicky" baby should not be jiggled, rocked or shaken.

TECHNIC OF FEEDING

When the feeding time comes it is well for the mother to take the infant to a quiet dimly lighted bedroom where nothing will interfere with the natural drowsiness which should develop by the time the food is taken. With the child held nearly upright during feeding less air is swallowed, and its escape is favored early.

Since the hypertonic state has no relation to a food disturbance, any normal complete dietary suitable for the infant will suffice. It is unnecessary to change from the breast to the bottle, but mixed feeding may be indicated because of insufficient breast milk. Regularity in hours of meals gives the child an opportunity to sleep as long as possible between feedings, preferably in these cases at four hour intervals.

The infant fed adequately on the bottle needs no change in the composition of the food. If the infant's disturbance were due to intestinal discomfort, the simple change for the better which occurs in a hospital environment would not take place. In the hospital there is little disturbance by handling, because of the policy of laissez faire and the absence of the members of the family. The abrupt change from an environment of tired and worried relatives seems to be effective in a short time.

But it is not necessary in most instances to remove the infant to the hospital if home habits are at once changed. Walking the floor, swinging and patting the infant are causes of disturbances which must be discontinued. In order to get freedom from all noises, especially loud voices and the slamming of doors, the physician should give careful directions. The child must be treated with gentleness. Most infants when guarded in the foregoing manner show a prompt response and need only to be kept on such a regular, quiet schedule.

In addition to the aforementioned changes in program, sedative drugs are needed and are found to act promptly and often spectacularly. The relief does not come from their anodyne action but from their sedative effect.

MEDICINAL TREATMENT

The sedative brings prompt relief, often from the first few doses. It should be given regularly every four hours for several days. I feel that basing the dosage on the age is safe and entirely satisfactory. The dose estimated should be given, and after quiet has been produced the amount may be reduced. An additional half dose may be repeated within an hour or two if needed. It may be found that not all infants of the same age need exactly the same dose. The amounts suggested in the accompanying table have been found from experience to be sufficient. I shall limit the list of drugs to four, believing that it is better to learn the action of a few which have been proved.

The choice of sedative is in the order named in the table. The best results have been from soluble phenobarbital (phenobarbital sodium), which may be given safely. It adds to the action of the drugs administered to see that they dissolve well, have an unobjectionable flavor and have a syrup for the principal vehicle. When these doses are employed in prescription form, the types of mixture presented here have proved excellent from the standpoints of therapeutic results, solubility, taste, permanence and other pharmaceutic requirements.

In writing the prescription, the physician should remember that an ounce of the usual liquids makes only 6 to 7 teaspoonfuls of standard size.

TABLE 1.—*Dosage of Four Sedatives for Colic*

Age in Weeks	Soluble Phenobarbital (Phenobarbital Sodium)		Atropine Sulfate		Codeine Sulfate		Camphorated Tincture of Opium	
	Grain	Gram	Grain	Gram	Grain	Gram	Minims	Cc.
2	¼	0.01	1/5000	0.00003	1/50	0.003	10	0.61
4	⅓	0.013	1/3000	0.00004	1/40	0.004	15	0.92
8-20	½	0.016	1/2000	0.00005	1/33	0.005	20	1.23

PRESCRIPTION 1.—*Soluble Phenobarbital*

			Gm. or Cc.	
℞	Soluble phenobarbital		0.25- 0.40	gr. iiiss-vss
	Peppermint water		15.00	fl. ʒ iv
	Aromatic elixir	to make	90.00	fl. ʒ iii

A teaspoon contains from 0.01 to 0.02 Gm. (one-sixth to one-fourth grain) of soluble phenobarbital.
Label: One teaspoonful every four hours before feeding.

Atropine sulfate is fully soluble and has no unpleasant taste. For safety of administration it should not be given in drop doses in the home. Prescription 2 is pleasing and unobjectionable.

PRESCRIPTION 2.—*Atropine Sulfate*

			Gm. or Cc.	
℞	Atropine sulfate		0.0007- 0.0015	gr. 1/100-1/40
	Cinnamon water		15.00	fl. ʒ iv
	Aromatic elixir	to make	90.00	fl. ʒ iii

A teaspoon contains from 0.00003 to 0.00006 Gm. (1/5000 to 1/1000 grain) of atropine sulfate.
Label: One teaspoonful every four hours before feeding.

Codeine has a sedative effect. The sulfate or phosphate may be used (prescription 3).

PRESCRIPTION 3.—*Codeine Sulfate*

			Gm. or Cc.	
℞	Codeine sulfate		0.032- 0.15	gr. 1½-2½
	Cinnamon water		15.00	fl. ʒ iv
	Aromatic elixir	to make	90.00	fl. ʒ iii

A teaspoon contains from 0.003 to 0.004 Gm. (one-twentieth to one-fifteenth grain) of codeine sulfate.
Label: One teaspoonful every four hours before feeding.

In "colic" of the hypertonic period it has been found that atropine alone may not give the brilliant results that it does in the pylorospasm (vomiting) of the truly neuropathic infant. Atropine and codeine may be used together by combining the two prescriptions just given, and administering from one to two teaspoonfuls before each feeding until quiet is obtained.

Camphorated tincture of opium ("paregoric") may well be used in an emergency, because of its availability, for it is usually found in the home. Often the first call for relief by the screaming infant is late at night when it is hard to find an open drugstore. The taste of camphorated tincture of opium is somewhat unpleasant, especially to adults, who as parents may think it unsuitable for a young infant. This in fact

may be the explanation for the small inadequate doses, such as a few drops, which have been common for infants. Furthermore, when mixed with water the murky appearance adds to its objections. In the home the mother should be advised to drop the amount ordered into a small wine glass and mix with a teaspoonful of corn syrup. This may then be given with a dropper. A combination which serves well for a sedative is given in prescription 4.

PRESCRIPTION 4.—*Camphorated Tincture of Opium*

	Gm. or Cc.	
℞ Camphorated tincture of opium.....	15.00	fl. ʒ iv
Compound tincture of lavender.....	7.50	fl. ʒ ii
Aromatic syrup of rhubarb.....to make	60.00	fl. ʒ ii

One fluidrachm contains 0.92 cc. (15 minims) of camphorated tincture of opium.

Label: One-half to one teaspoonful in an equal amount of corn syrup, with dropper, and repeat as ordered.

I have seen no habituation or toxic effects from the use of soluble phenobarbital, codeine or other sedatives. Atropine sulfate may cause fever or an erythema in the larger doses in infants who have an idiosyncrasy to it. Obviously there will be no occasion for long continued, regularly administered sedatives for colic. They often have a cumulative effect, so it is possible to interrupt the medication from time to time. The attacks tend to disappear as the infant gets older.

The mother sometimes calls to say that the dose of medicine does not quiet the baby. It may be that the baby has regurgitated the medicine. In any event, one may repeat any of the foregoing doses in such cases within an hour, for an additional dose is more advisable than an increase in the concentration of the drug in the prescription.

For the relief of abdominal distention, which occurs in a small percentage of cases, whether accompanied by constipation or by loose stools, the sedative may be sufficient. An enema is likewise effective, salt solution (sodium chloride one teaspoonful to a pint of warm water) being employed. To get the best results it is suggested that the infant be placed in the prone position with the hips elevated. A well lubricated catheter, size 20 to 24 F., attached to a soft bulb or fountain syringe is introduced for 2 or 3 inches and the water allowed to enter slowly. Kneading the abdomen will assist in reducing distention.

Twenty years ago Haas[3] reported a number of instances of what he termed "the hypertonic infant." The characteristics were colic, rigidity, overaction of the involuntary muscles, vomiting, visible peristalsis, constipation, imperfect nutrition, general irritability, insomnia and crying. The syndrome represented a neuropathic diathesis and pylorospasm. Such children are now rarely encountered. Haas's explanation was that the child belonged to the spasmophilic group in whom a stimulation of the autonomic nervous system existed. He emphasized the specific action of atropine sulfate in such cases.

CONCLUSION

Colic is a term to express paroxysmal pain in the colon or abdomen. Abdominal pain as a serious manifestation in infancy, if acute, is significant in its diagnostic importance for intestinal obstruction. Pain and tympanites due to diarrhea are not included in the scope of this discussion, for its treatment is that of the causative disease.

Colic, in the sense that it is used in this article, does not refer to pylorospasm and vomiting or to the pathologic type known as the neuropathic diathesis of infancy, which were commonly discussed several years ago. If one reviews the index of the world's literature on pediatrics, as found in the *American Journal of Diseases of Children*, as well as textbooks, colic will not be found treated as an entity but only as a symptom.

"Colic," as a common manifestation found during the early part of infancy, is a paroxysmal manifestation of intensive crying which has been assumed, possibly without any method of proof, to be due to abdominal pain. It occurs in thriving infants as well as in those who may not be gaining, in breast fed infants as well as in bottle fed. Colic is an inappropriate term but sanctioned by popular usage. It will add to a better understanding of the management of infants if the condition is recognized as a hypertonic period through which most infants pass; its paroxysmal nature seems related to frightening or startling.

The treatment recommended is the installation and maintenance of a quiet environment, medical sedation for periods of a few days, and recourse to additional doses when necessary. The individual case may need a definite increase in the food intake.

315 Alameda Road.

3. Haas, S. V.: The Hypertonic Infant: The Curative Action of Atropine on Certain of Its Manifestations, Am. J. Dis. Child. **15**: 323 (May) 1918.

Council on Foods

In formulating policies regarding processed foods the Council has been cognizant of the lack of sufficient data on the vitamin A content of natural foods. Milk and dairy products are known to be important sources of this factor. Data on the carotene and vitamin A content of market milks have been obtained by Professor Peterson and his collaborators at the University of Wisconsin and are made available in the following report, publication of which has been authorized by the Council.

Franklin C. Bing, Secretary.

THE CAROTENE AND VITAMIN A CONTENT OF MARKET MILKS

A. C. DORNBUSH, B.S.
W. H. PETERSON, PH.D.
AND
F. R. OLSON, M.S.
MADISON, WIS.

Estimates of the vitamin A requirements of the healthy adult vary markedly,[1] but it is generally believed that a good diet should provide from 3,000 to 4,000 U. S. P. units of vitamin A each day. Green, leafy vegetables provide appreciable quantities of provitamin A (carotene) but other excellent sources of vitamin A

From the Department of Biochemistry, College of Agriculture, Madison, Wis.

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Dr. S. L. Pilgram, of the Milwaukee City Health Department, assisted in the collection of the samples.

Published with the approval of the Director of the Wisconsin Agricultural Experiment Station, University of Wisconsin, Madison.

The following milk producers or distributors supplied monthly samples of milk for analyses: Bancroft Dairy Company, Madison, Wis.; Bowman Farm Dairy, Madison, Wis.; Brook Hill Farm, Inc., Genessee Depot, Wis.; Gehl's Guernsey Farms, Inc., Milwaukee; Golden Guernsey Dairy Co-Op., Milwaukee; Gridley Dairy Company, Milwaukee; Kennedy Dairy Company, Madison, Wis.; Loitch Dairy Company, Milwaukee, and Wern Farms, Genessee Depot, Wis.

1. Booher, Lela E.: Vitamin A Requirements and Practical Recommendations for Vitamin A Intake, J. A. M. A. **110**: 1920-1925 (June 4) 1938. Jeghers, Harold: The Degree and Prevalence of Vitamin A Deficiency in Adults, ibid. **100**: 756-762 (Sept. 4) 1937. New and Nonofficial Remedies, Chicago, American Medical Association Press, 1938, pp. 484-485. Fraps, G. S., and Treichler, R.: Vitamin A Content of Foods and Feeds, Bull. 477, Agricultural and Mechanical College of Texas, Agricultural Experiment Station, 1933. Cameron, Hazel C.: The Effect of Vitamin A upon Incidence and Severity of Colds Among Students, J. Am. Dietet. A. **11**: 189-204 (Sept.) 1935.

such as milk and dairy products which contain butter fat are usually relied on to supply significant amounts of the normal requirements. While there are numerous reports on the carotene and vitamin A contents of milk produced under experimental conditions [2] and a few analyses of isolated samples of market milks,[3] there are no published data dealing with a large volume of market milk over an extended period of time. Most workers report potencies between 10 and 60 U. S. P. units per gram of butter fat, but a few values fall outside these limits.

Because of the increasing interest in the vitamin A potency of milk and the efforts being made to improve the quality of winter milk, it seemed desirable to make a systematic and long time survey of a large milk supply. For this purpose commercial milks from four Milwaukee and four Madison distributors were obtained. Quart samples were taken at random from large tanks in which several thousand gallons had been blended; hence the sample was representative of the milk actually sold to the public. Four types of commercial milk were analyzed: 1. Market milk, often called grade A milk, the mixed milk from several breeds of cattle. Approximately 75 per cent of the cows were Holsteins and the remainder were mainly Guernseys. 2. Vitamin D milk, usually a mixed market milk, treated in such a way as to have a certain vitamin D potency. 3. Guernsey milk. 4. Certified milk. Herds producing certified milk are probably fed a better than average grade of forage during the winter months. Collection and analysis of samples began in January 1938 and continued through June 1939. The data reported in the tables and figures represent 345 samples of milk.

EXPERIMENTAL

Analytic Methods.—Carotene and vitamin A were determined on the fluid milk as outlined by Olson, Hegsted and Peterson.[4] The nonsaponifiable fraction was examined for carotene and vitamin A spectrophotometrically after the method of Steenbock and Baumann.[5] The value $E^{1\%}_{1\,cm.}$ 328 mμ — 1,600 was used in the calculation of the vitamin A. Recent data suggest that values other than 1,600 should be used. If some other figure is finally adopted the data provided in this paper can be converted by means of a suitable factor. The data are given as micrograms (thousandths of a milligram) of carotene and vitamin A. If it is assumed, as seems justified from recent investigations,[6] that vitamin A has twice the potency of carotene weight for weight, the total potency of milk can be expressed as micrograms of either carotene or vitamin A. In this paper the potency has been expressed in terms of vitamin A. The U. S. P. or international unit is 0.6 microgram of carotene, which on the foregoing basis is equivalent to 0.3 microgram of vitamin A. Values recorded in micrograms can be readily convertèd into U. S. P. units by dividing carotene figures by 0.6 and vitamin A figures by 0.3. For example, a milk containing 6 micrograms of carotene per gram of butter fat (10 U. S. P. units) and 12 micrograms of vitamin A (40 U. S. P. units) on this basis of calculation has a total vitamin A potency of 15 micrograms (50 U. S. P. units).

Butter Fat.—Because it is conventional to express the vitamin potency in terms of butter fat, it is necessary to know the percentage of fat if the vitamin potency of the fluid milk is to be calculated. The data for butter fat over the eighteen months of the survey are given in table 1. As expected, the figures for market and vitamin D milks are practically the same throughout the eighteen months. The certified milk was higher in fat by 0.3 per cent than the market milk. The herds producing these milks probably contained a higher percentage of Guernsey and Jersey cattle than those of the market milk. The Guernsey milk on the average was higher in fat by 0.9 per cent than the market milk, a difference which is equivalent to about 25 per cent.

TABLE 1.—*Average Butter Fat Content of Milk*

Dates	Market, per Cent	Vitamin D, per Cent	Guernsey, per Cent	Certified, per Cent
1938				
January	3.8	3.8	4.7	4.7
February	3.8	3.7	4.8	4.0
March	3.5	3.5	4.5	3.8
April	3.6	3.6	4.3	4.0
May	3.7	3.6	4.5	3.8
June	3.6	3.6	4.4	3.7
July	3.4	3.5	4.3	3.8
August	3.4	3.6	4.2	3.9
September	3.5	3.5	4.4	3.8
October	3.5	3.4	4.3	3.9
November	3.5	3.6	4.4	3.8
December	3.4	3.5	4.3	3.9
1939				
January	3.4	3.4	4.3	3.8
February	3.5	3.4	4.4	3.9
March	3.5	3.6	4.3	3.8
April	3.5	3.6	4.4	3.7
May	3.4	3.5	4.2	4.0
June	3.5	3.7	4.4	3.9
Averages	3.5	3.6	4.4	3.8
Total number of samples	119	74	88	89

CAROTENE AND VITAMIN A CONTENT OF MILKS

Market Milk.—During the first four months, samples were obtained only from the Madison distributors; but since these samples are indicative of the general seasonal trend they are averaged to form the first part of chart 1 instead of being considered separately. The carotene content dropped to a minimum, 3.1 micrograms per gram of butter fat, in March. The decrease to this minimum was slow because the biggest drop had occurred before these samples were taken, i. e. imme-

2. Baumann, C. A., and Steenbock, Harry: Fat-Soluble Vitamins: XXXVI. The Carotene and Vitamin A Content of Butter, J. Biol. Chem. **101**: 547-560 (July) 1933. Booth, R. G.; Kon, S. K.; Dann, W. J., and Moore, Thomas: A Study of Seasonal Variations in Butter Fat: I. Seasonal Variations in Carotene, Vitamin A and the Antimony Trichloride Reaction, Biochem. J. **27**: 1189-1196 (No. 4) 1933. Gillam, A. E.; Heilbron, I. M.; Morton, R. A.; Bishop, Gerald, and Drummond, J. C.: Variations in the Quality of Butter, Particularly in Relation to the Vitamin A, Carotene and Xanthophyll Content as Influenced by Feeding Artificially Dried Grass to Stall-Fed Cattle, ibid. **27**: 878-888 (No. 3) 1933. Watson, S. J.; Bishop, Gerald; Drummond, J. C.; Gillam, A. E., and Heilbron, I. M.: The Relation of the Color and Vitamin Content of Butter to the Nature of the Ration Fed: I. Influence of the Ration on the Yellow Color of the Butter; II. The Carotenoid and Vitamin A Contents of the Butter, ibid. **28**: 1076-1085 (No. 3) 1934. Peterson, W. H.; Bohstedt, G.; Bird, H. R., and Beeson, W. M.: The Preparation and Nutritive Value of A. I. V. Silage for Dairy Cows, J. Dairy Sc. **18**: 63-74, 1935. Fraps, G. S.; Copeland, O. C., and Treichler, R.: The Vitamin A Requirements of Dairy Cows, Bull. 495, Agricultural and Mechanical College of Texas, Agricultural Experiment Station, 1934. Booth, R. G.; Kon, S. K., and Gillam, A. E.: The Relative Biological Efficiencies of Vitamin A and Carotene of Butter, Biochem. J. **29**: 2169-2174 (No. 6) 1934. Coward, Katherine H.: Biological Standardization of the Vitamins, Baltimore, William Wood & Co., 1938. Baumann, Steenbock, Beeson and Rupel.[5]

3. Morgan, R. S., and Pritchard, H.: The Average Vitamin A and Vitamin D Potency of Butter, Analyst **62**: 354-362 (May) 1937. Wilkinson, H.: The Vitamin A and Vitamin D Contents of Butter: II. Seasonal Variation, ibid. **64**: 17-23 (Jan.) 1939.

4. Olson, F. R.; Hegsted, D. M., and Peterson, W. H.: Determination of Carotene and Vitamin A in Milk, J. Dairy Sc. **22**: 43-64, 1939.

5. Baumann, C. A.; Steenbock, H.; Beeson, W. M., and Rupel, I. W.: Fat-Soluble Vitamins: XXXIX. The Influence of Breed and Diet of Cows on the Carotene and Vitamin A Content of Butter, J. Biol. Chem. **105**: 167-176 (April) 1934.

6. Holmes, H. N., and Corbet, Ruth E.: The Isolation of Crystalline Vitamin A, J. Am. Chem. Soc. **59**: 2042-2047 (Oct.) 1937. Mead, T. H.; Underhill, S. W. F., and Coward, Katherine H.: Crystalline Esters of Vitamin A: I. Preparation and Properties. II. Biological Potency, Biochem. J. **32**: 589-600 (April) 1939.

diately after the herds were taken off pasture in the fall. The vitamin A content decreased to a minimum of 7.2 micrograms in April. The slight increase in carotene in April, before the increase in vitamin A, is explainable, since some herds were already on pasture in the latter part of this month and the carotene is the first

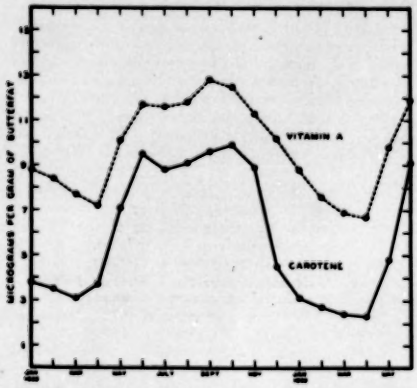

Chart 1.—Carotene and vitamin A content of Wisconsin market milks, Milwaukee and Madison distributors.

to respond to the change in feed. The drop in both carotene and vitamin A in July was probably due to the drying of the pastures. The meteorological charts for Milwaukee and Madison show that July had a lower precipitation than either June or August. After reaching a maximum for both carotene and vitamin A with

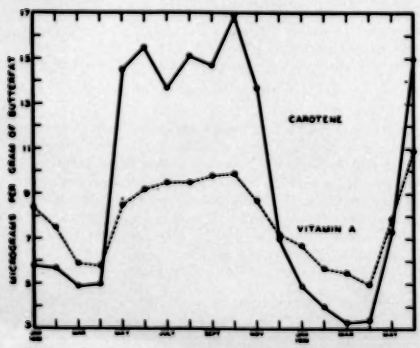

Chart 2.—Carotene and vitamin A content of Guernsey milk, Milwaukee and Madison distributors.

9.9 and 12.8 micrograms, respectively, in September and October, the milks dropped until a minimum was reached in April 1939. The decrease in carotene was more abrupt than in vitamin A, indicating the use of vitamin A stores in the animal body. The higher values obtained during the winter months of 1938 over 1939 were probably related to the better quality of corn silage put up in 1937 as compared with that made in 1938. Because of heavy rains in September 1938, silage-making was delayed until the corn had matured too far and much destruction of carotene had occurred. The average carotene and vitamin A contents of pasture milks (June-October) were 9.4 and 12.1 micrograms per gram of butter fat, respectively. The 1939 winter milks (January-April) contained an average of 2.6 and 7.5 micrograms of the respective constituents.

The variation among the eight samples for any given time was considerable. For example, in June the highest sample contained 62 per cent more carotene and 46 per cent more vitamin A than the lowest. In January, when rations are much more alike, the variations were only 37 per cent for carotene and 11 per cent for vitamin A. The milk of no distributor was regularly high or low.

Vitamin D Milk.—The breeds and rations used for the production of vitamin D milk are usually the same as those used for the production of market milk. The samples analyzed had been enriched by one of three processes: irradiation, metabolism of irradiated ergosterol, or fortification with irradiated ergosterol. None of these processes affect the vitamin A potency of milk and hence the vitamin D milks had about the same

TABLE 2.—*Vitamin A Potency of Milk*
(U. S. P. Units per Quart)

Date	Market	Vitamin D	Guernsey	Certified
1938				
January	1,323	1,362	1,731	1,350
February	1,302	1,350	1,442	1,310
March	1,000	981	1,272	1,300
April	1,004	1,003	1,161	1,397
May	1,652	1,675	2,300	1,622
June	1,926	1,841	2,458	1,967
July	1,772	1,814	2,296	1,906
August	1,816	1,936	2,340	2,086
September	2,005	1,791	2,462	2,102
October	1,967	1,762	2,578	1,980
November	1,462	1,599	2,276	1,670
December	1,383	1,391	1,696	1,650
1939				
January	1,141	1,197	1,288	1,274
February	1,026	1,082	1,103	1,321
March	924	981	1,009	1,276
April	909	915	980	1,264
May	1,351	1,192	1,465	1,369
June	1,860	2,002	2,627	2,413
Averages	1,461	1,471	1,899	1,648

vitamin A content as market milk. (Data not given in charts.)

Guernsey Milk.—Channel breeds of cattle, such as Guernsey and Jersey, produce milks higher in color (carotene) than the other breeds. However, the vitamin A constituent is less in these milks than it is in Holstein milk.[5] The vitamin A contents of Guernsey winter milks (January-April) were 6.9 micrograms and 5.7 micrograms per gram of butter fat in 1938 and 1939, respectively (chart 2). The carotene contents at the same times were 5.4 and 3.9 micrograms per gram of butter fat. The abrupt rise in May of both years is due to the return of the cattle to pasture. During the pasture months of 1938 (June-October) the carotene content was 15.2 micrograms per gram of butter fat and the vitamin A content was 9.6 micrograms. Thus the carotene content is nearly tripled by the change to pasture, while the vitamin A content is increased only 40 per cent.

Certified Milk (chart 3).—Here, as in the other milks, there was seasonal variation, but it was not so great, since the winter milks did not reach such low levels as in the other cases, probably because feeds of better quality were used. During the winter of 1938 the milk contained 5.7 micrograms of carotene and 8.3

micrograms of vitamin A per gram of butter fat. In the summer of 1938 the carotene and vitamin A contents rose to 11.9 and 10.1 micrograms. The influence of the high proportion of channel breeds in the milk supply is reflected in the carotene curve. During the winter of 1939 the values obtained for carotene and vitamin A were 5.2 and 7.8 micrograms.

Milks from Other States.—Although this survey was primarily intended to study Wisconsin milks, a few butter fat samples from other states were analyzed. These samples were obtained from a large distributor in each state, and each sample was a composite representing between 5,000 and 6,000 cows. In New York, like Wisconsin, the herds were predominantly Holstein, while in Tennessee they were almost entirely Jersey. Results of the analyses are tabulated graphically in chart 4. Variations due to season are easily seen. The Wisconsin and New York climates are similar, neither having pasture until May; thus the peak does not come as early as in Tennessee.

Total Vitamin A Potency.—From the consumer's point of view it is more practical to express the vitamin A potency per unit volume of milk, e. g. quart, than per unit of butter fat. By the method of calculation already described, the values in U. S. P. units given in table 2 are obtained. The Guernsey milk has approximately 25 per cent more potency than the market or vitamin D milks. This difference is about the same as that which obtains with respect to their fat contents.

Certified milk, although containing less fat than the Guernsey milk, surpassed the Guernsey milk in vitamin A potency in the winter season. In summer it was distinctly lower and had about the same potency as market milk. In the pasture season the ration is about the same for all herds. In winter, however, the certified milks are higher in vitamin content, probably because

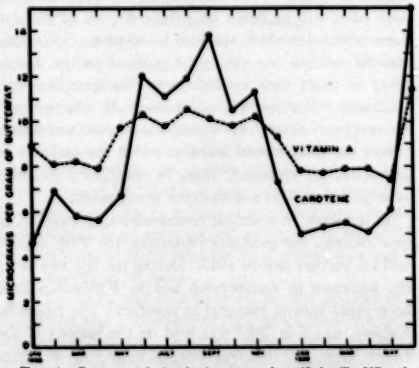

Chart 3.—Carotene and vitamin A content of certified milk, Milwaukee distributors.

the cattle are fed hay or silage high in carotene. It is probable that all winter milks could be improved by feeding a high carotene silage, such as that made from legumes.

SUMMARY

The carotene and vitamin A contents of milks marketed by eight large distributors in the Madison and Milwaukee areas of Wisconsin have been determined monthly during a period of eighteen months. These milks fall into four groups: (1) market (mainly Holstein), (2) Guernsey, (3) vitamin D (mainly Holstein) and (4) certified.

All milks showed marked seasonal changes in both carotene and vitamin A contents. The seasonal changes in carotene were greater than those for vitamin A. The milks were fairly similar in vitamin potency per gram of butter fat. Certified milks were somewhat higher than the other milks during the late winter months. Guernsey milk, because of its higher fat content, had a higher potency on the fluid basis than the others.

Per quart, the winter milks (January-April) averaged: market 327 micrograms (1,088 U. S. P. units), Guernsey 372 micrograms (1,241 U. S. P. units) and certified 400 micrograms (1,334 U. S. P. units). The corresponding figures for summer (June-October) were 572 (1,906), 727 (2,415) and 599 (1,995).

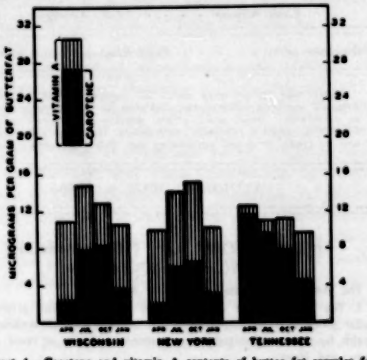

Chart 4.—Carotene and vitamin A contents of butter fat samples from three states.

ACCEPTED FOODS

THE FOLLOWING ADDITIONAL FOODS HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO ACCEPTED FOODS.

FRANKLIN C. BING, Secretary.

PREPARATIONS USED IN THE FEEDING OF INFANTS (*See* Accepted Foods, 1939, p. 156).

H. J. Heinz Company, Pittsburgh.

HEINZ BRAND STRAINED ASPARAGUS.

Analysis (submitted by manufacturer).—Moisture 91.0%, total solids 9.0%, ash (including sodium chloride) 0.5%, sodium chloride 0.1%, fat (ether extract) 0.3%, protein (N × 6.25) 1.9%, crude fiber 0.8%, sucrose (Munson and Walker Method) 3.7%, carbohydrate other than crude fiber (by difference) 5.5%, calcium (Ca) 0.014%, phosphorus (P) 0.036%, iron (Fe) 0.0010%, copper (Cu) 0.00013%.

Calories.—0.32 per gram; 9.1 per ounce.

Vitamins.—Protocols of biologic assay submitted by manufacturer (1939) showed that this product contains 16.5 U. S. P. units of vitamin A, 0.31 international unit of vitamin B_1 and 0.55 Sherman-Bourquin unit of vitamin G (riboflavin) per gram; 468.6, 9.8 and 15.6 per ounce. Chemical titration (1939) showed that the product contains 0.24 mg. of ascorbic acid per gram, 5.6 mg. per ounce or 112 international units of vitamin C per ounce.

Mead Johnson & Company, Evansville, Ind.

MEAD'S PECTIN-AGAR IN DEXTRI-MALTOSE, a powdered mixture of Mead's Dextri-Maltose No. 1 (containing 2 per cent sodium chloride),* pectin and Agar (U. S. P.).

Analysis (submitted by manufacturer).—Moisture 2.0%, total solids 98.0%, ash 2.5%, protein (N × 6.25) 1.0%, crude fiber 0.3%, carbohydrates other than crude fiber (by difference) 94.2%.

Calories.—3.5 per gram; 99.3 per ounce.

* Mead's Dextri-Maltose No. 1 with 2 per Cent of Sodium Chloride is described on page 176, Accepted Foods, 1939.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 4, 1940

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of the federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

THE NEW YORK SESSION

In 1917 the American Medical Association met in New York City, where in 1940 it will assemble again for its ninety-first annual session. In those days all the talk was of the War and of participation by the United States. The House of Delegates bade official farewell to Dr. Alexander Lambert, about to leave for France. The medical profession was concerned with plans for its own service. Before the War ended, some fifty thousand doctors had been intimately associated with medical military affairs. Chief among the topics before the House of Delegates was a report on social insurance—actually compulsory sickness insurance. The War ended much of that discussion; but the years passed, the crash came, the banks closed, unemployment and destitution increased, the problem of the aged was thrown into politics, the Social Security Law was developed, and again compulsory sickness insurance held the center of the stage. Notwithstanding the World War and the social problems of 1917, the scientific sections of the American Medical Association held their meetings, the Scientific Exhibit displayed some fifty contributions, and over six thousand doctors registered their attendance.

Now in 1940 a new war has engulfed nearly all the world; the United States has not become involved, although much of the rest of the world seems trembling on the brink of involvement. For preparedness, base hospitals are being organized throughout the nation; but it seems unlikely that military matters will come before the House of Delegates. True, the situation in Europe is reflected in the problem of the medical refugees, but years of experience have already indicated some significant factors involved in this question.

For almost a quarter of a century the medical profession has been maintaining high standards of medical care, opposing successfully all attempts to regiment, degrade or deteriorate its services. There is no reason to believe that the House of Delegates will abandon its repeatedly declared points of view or that it will recede one iota in its ideals. Indeed, all its tendencies have been toward strengthening the mechanisms by which its principles are maintained.

As medicine comes into the 1940 session the time before adjournment of the Congress seems but brief. Such legislation in the medical field as the Congress may enact will no doubt bear the reflection of the platform of the American Medical Association. Succeeding months will see our two great political parties assembling to select their candidates and to announce their platforms. The medical profession will observe with interest the extent to which those pronouncements reflect the fundamental features which the majority of physicians are convinced must be observed if medicine is to go forward in a democratic government.

In numbers, in scientific contributions, in exhibits, in new technics for graduate education, the 1940 session will far surpass that of 1917. During the last two years the increases in membership and in Fellowship have been rapid both in rate and in numbers. The Scientific Exhibit, which in 1917 was held on the balcony of the Hotel Astor, will this year demand more than an entire floor of the Grand Central Palace. And the meeting itself will ramify through a half dozen of the great hotels. Thus in the greatest city of the world, now holding the most remarkable World's Fair that has ever been constructed, will assemble what has come to be the largest and most important medical convention. The superlatives may seem grandiloquent, but only those who participate will realize how weakly they describe the greatness of the occasion.

JUVENILE NEPHRITIS AND LEAD POISONING

Local practitioners have known for some time that in Queensland, Australia, large numbers of people die at an early age from kidney disease and that lead poisoning among children has been occurring constantly. This unusual state of affairs has been thoroughly investigated by L. J. Jarvis Nye of Brisbane, who sums up his evidence in a volume entitled "Chronic Nephritis and Lead Poisoning."[1] In the course of six years Nye studied 186 cases of chronic nephritis among persons under 40 years of age. Six of the patients were under 10 years of age and sixty-four were under 20. In the report by the federal authorities, among 100 persons with chronic nephritis examined, five were under 10 and forty-eight under 20 years of age.

These children, according to Nye, present a characteristic appearance with pallid wizened features, dry unnourished skin and stunted physical development. High blood pressure and some degree of retinitis are invariably present. In the late stages there is rapid pulse, well marked cardiac hypertrophy, accentuated second aortic sound and poor cardiorespiratory reserve. The appearance of the kidneys in these cases is typical of arteriosclerotic contracted kidneys of the diffuse sclerotic type. Nye emphasizes that in his histologic studies it was rare to find the glomerular tuft fused to the capsule. This suggests that the condition is not bacteriotoxic in origin but is due to another type of sclerosing agent which affects primarily the vessels and tubules, the glomeruli being secondarily involved. These observations are in accord with those of Battaglia,[2] who has done much experimental study with lead and who considers that the histogenesis of saturnine kidneys is that of vascular nephrosclerosis.

Nye's investigations made it apparent that there is present in Queensland some vascular sclerosing agent which does not operate to the same extent in other cities, that its effects are mainly demonstrable among the poor classes, and that it is more common in females. This factor was able to initiate a sclerosing process in childhood which, as years passed, produced all the well known stigmas of cardiovascular renal disease terminating eventually in uremia.

The source of lead poisoning among the children in Queensland was elucidated by the investigations of two Brisbane physicians, Lockhart Gibson and Jeffries Turner. These investigators made the observation that most of the children affected were nail biters. By the process of exclusion the source of poison was traced to the paint on the veranda railings. The characteristic feature of a house of the poor folk in Queensland is a large veranda the function of which is to afford protection from the rays of the tropical sun to the infants and children while the mother is away at work. The railings are painted with white paint. The siccative action of the tropical sun dries up the linseed oil and leaves the pigment, which in this case is the very toxic lead carbonate, in the form of a chalky powder. "The scene of tiny infants clutching the railings as they watch the world from their first playground, then biting the ideal lodgment for paint, the fingernails, can be readily visualized."

The recognition of saturnism in the children of Queensland presents, according to Nye, little difficulty, for the picture is quite characteristic. The child is irritable and fretful. There may be loss of appetite, constipation, colic, characteristic pallor, weakness and pains in the legs and arms, terminating in actual paralysis. The distribution of paralysis is almost pathognomonic and constitutes the most characteristic diagnostic feature of plumbism. In children the lower extremities are always first to be affected. The paralysis is eventually bilateral. Cerebral manifestations, such as choreiform movements, convulsions and coma, are more common. Burton's blue line in the edge of the gums and punctate basophilia of the erythrocytes were regularly present in the author's series. In the majority of the cases the diagnosis was confirmed by the finding of lead in the urine in amounts greater than 0.04 mg. per hundred cubic centimeters.

Inquiry revealed that thirty-four patients who had suffered severely from plumbism with paralysis in childhood had all spent their childhood in wooden houses in contact with chalky paint. Eighteen were nail biters, eight were both nail biters and thumb suckers and four were thumb suckers; only four were without history of any such habit. Twenty-nine patients already had well established renal insufficiency. High blood pressure, urea retention and low urinary concentration were present in most and indicated that sclerosis had already commenced. Once nephrosclerosis is established, its progress is constant and relentless. In the cases investigated by the federal report and by the author, signs of kidney damage were observed in no less than 80 per cent of the cases of plumbism. The author concludes that every child suffering from lead poisoning is a potential subject of chronic nephritis in later life. He feels that the mass of correlated evidence establishes the guilt of white paint beyond any doubt as well as the damaging effects of lead on young tissue. He urges the desirability of the banishment of lead from the places which serve as the playground for children. The problem of lead poisoning in children, as well as in adults, is a challenge to paint industries. This challenge is being at least partly met by the substitution of nontoxic paints for the toxic white paint. The nontoxic paints are combinations of zinc and lead in the proportions of 40 to 60, or of lead, zinc and barium in the proportions of 60, 30 and 10. Titanium oxide in combination with zinc oxide presents the least toxic and the most practical combination so far.

1. Nye, Leslie John Jarvis: Chronic Nephritis and Lead Poisoning, Sydney, Australia, Angus & Robertson, Ltd., 1933.
2. Battaglia: Policlinico (sez. med.) 34:133, 1927, quoted by Nye.

Current Comment

COMMITTEE DELAYS REPORT ON HOSPITAL CONSTRUCTION BILL

The Senate Committee on Education and Labor, April 23, unanimously approved a revised Wagner-George hospital construction bill. It was expected that thereafter the bill would immediately be reported to the Senate but there has resulted a delay. It is said that the committee will propose in the revised bill a six year program for the construction and maintenance of hospital facilities and will authorize annual appropriations of $10,000,000 for construction and maintenance and $500,000 for administrative expenses for each of the six fiscal years.

DENTISTRY CELEBRATES A CENTENARY

In March, dentistry celebrated in Baltimore the one hundredth anniversary of the beginning of its development as a science in the United States. In this celebration dentists from the nation participated in a joint meeting with the Maryland State Dental Association. Official delegates attended not only from the American Dental Association but also from each of the state societies, some of which were founded only within fairly recent years. The deans of some thirty-nine dental schools were also represented, the oldest being the Baltimore College of Dental Surgery, which was established in 1840. Many representatives of foreign and international societies attended. The most important development in the history of dentistry was perhaps the establishment of the first school—the Baltimore College in 1840. Shortly thereafter came the publishing of the *American Journal of Dental Science* and the formation of the American Society of Dental Surgeons. The progress of dentistry since that time, particularly in this country, has been phenomenal, indicating the great place which modern dentistry occupies in the promotion of human health. Today dentistry is a broad science with several highly specialized branches. The big problems before dentistry today are not so much problems of scientific research, for here it proceeds apace, but, as with medicine, problems of the distribution and the costs of dental service—the problem of making available for all of our people the most that dentistry has to contribute.

DEPLETION OF MARRIAGEABLE MEN BY WAR

One of the more serious effects of war is the depletion of young men and the disturbance of the ratios of marriageable males and females. In a recent brief review [1] of this subject in the Statistical Bulletin of the Metropolitan Life Insurance Company it was pointed out that 72 per cent of German military deaths and approximately 55 per cent of the French losses in the last great war were of men under 30. This situation was reflected in the postwar ratios of the two sexes. The French census of 1911 showed substantially the same number of males as females in every five year age group; the 1921 census showed an excess of 261, 206 and 176 females per thousand males in the age groups 25 to 29, 30 to 34 and 35 to 39, respectively. In Germany likewise the prewar census of 1910 showed substantially equal proportions of males and females in each five year group. The 1925 census, however (the first taken by Germany after the war), showed an excess of 150 women per thousand men at ages 25 to 29, 259 per thousand at ages 30 to 34 and 181 per thousand at ages 35 to 39. Some of the results, such as the great increase in the proportion of marriages in the postwar period in which the groom was much older than the bride, were quite obvious. Another effect, although perhaps inextricably intertwined with economic factors, was the continued fall in the birth rate after the war. Clearly the actual battle losses are matched by losses in future population due to reductions in the birth rate. Furthermore, the relatively imponderable social effects of a deficiency of men, especially in certain age groups, must profoundly disturb the normal life of nations.

1. Postwar Depletion of Ranks of Men at Marrying Ages, Statistical Bulletin Metropolitan Life Insurance Company 21:1 (Feb.) 1940.

PEDESTRIAN PROTECTION

Twelve thousand five hundred pedestrians were killed in motor vehicle accidents in the United States in 1938. In cities of 10,000 people or more, pedestrian deaths amounted to more than 65 per cent of the total traffic deaths. At least 13 per cent of the pedestrians killed were intoxicated or had been drinking. The pedestrian death rate shows a wide variation for different age groups, 43.2 per cent of them having been persons 65 years of age or over. Elderly persons should be extremely cautious when they enter the street or highway. In its 1939 report the Committee on Pedestrian Control and Protection of the National Safety Council urges that every city and state undertake at once a comprehensive program of pedestrian accident prevention. Such traffic problems can occasionally be solved by the construction of pedestrian tunnels or bridges to separate vehicle traffic from the pedestrians; at least twenty cities have made such provisions. Pedestrian safety islands can be used in urban areas on wide roadways or intersections. Adequate street lighting should be provided in areas where studies of accidents have shown its need. Some cities use painted signs on sidewalks facing pedestrians as they approach crosswalks. The rural pedestrian should walk on the left hand side of the highway, facing the oncoming traffic. There is a definite need for sidewalks in rural communities, especially along highways leading to schools and churches. State officials should undertake pedestrian accident prevention programs and they should assist in developing a program of correcting physical hazards as well as habits of driver and pedestrian. In the business sections of cities, pedestrians should be required to cross only at intersections. Since Los Angeles and San Francisco have secured obedience to traffic signals, their pedestrian mortality rates have been lowered. The obedience of pedestrians to such simple precautions influences their safe practices generally.

ORGANIZATION SECTION

THE NEW YORK SESSION

AMERICAN MEDICAL ASSOCIATION, NINETY-FIRST ANNUAL SESSION

NEW YORK, N. Y., JUNE 10-14, 1940

Events on the Program will be on Daylight Saving Time

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The ninety-first annual session of the American Medical Association will be held in New York, June 10-14, 1940.

The House of Delegates will convene at 10 a. m., Monday, June 10. In the House the representation of the various constituent associations for 1938, 1939 and 1940 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	4
Arkansas	2	New Mexico	1
California	7	New York	19
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	2
Florida	2	Oregon	1
Georgia	3	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	6
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	7	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	3	Wyoming	1
Mississippi	2	Alaska	1
Missouri	4	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Philippine Islands	2
Nevada	1	Puerto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting, to be held at 8 p. m., Tuesday, June 11. The sections will meet Wednesday, Thursday and Friday, June 12, 13 and 14, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Surgery, General and Abdominal.
Ophthalmology.
Pediatrics.
Pharmacology and Therapeutics.
Nervous and Mental Diseases.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.
Radiology.

CONVENING AT 2 P. M., THE SECTIONS ON

Practice of Medicine.
Obstetrics and Gynecology.
Laryngology, Otology and Rhinology.
Pathology and Physiology.
Preventive and Industrial Medicine and Public Health.
Urology.
Orthopedic Surgery.
Miscellaneous Topics: Session on Anesthesia.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, June 10, 11, 12 and 13, and from 8:30 a. m. to 12 noon, Friday, June 14.

ROCK SLEYSTER, President.
H. H. SHOULDERS, Speaker, House of Delegates.
OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover members of the House of Delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
A. A. Walker, Birmingham.
J. N. Baker, Montgomery.

ARIZONA
Harold W. Kohl, Tucson.

ARKANSAS
William R. Brocksher, Fort Smith.
E. E. Barlow, Dermott.

CALIFORNIA
Edward M. Pallette, Los Angeles.
George G. Reinle, Oakland.
Charles A. Dukes, Oakland.
William R. Molony Sr., Los Angeles.
Elbridge J. Best, San Francisco.
Bon O. Adams, Riverside, Calif.
Lowell S. Goin, Los Angeles.

COLORADO
Walter W. King, Denver.
John Andrew, Longmont.

CONNECTICUT
Walter R. Steiner, Hartford.
George Blumer, New Haven.

DELAWARE

DISTRICT OF COLUMBIA
Henry C. Macatee, Washington.

FLORIDA
Meredith Mallory, Orlando.
Herbert L. Bryans, Pensacola.

GEORGIA
William H. Myers, Savannah.
Charles W. Roberts, Atlanta.
Olin H. Weaver, Macon.

IDAHO
E. N. Roberts, Pocatello.

ILLINOIS
Charles B. Reed, Chicago.
W. E. Kittler, Rochelle.
C. E. Wilkinson, Danville.
L. O. Frech, Decatur.

INDIANA
George R. Dillinger, French Lick.
H. G. Hasser, Indianapolis.
Don F. Cameron, Fort Wayne.
F. S. Crockett, La Fayette.

IOWA
Fred Moore, Des Moines.

KANSAS
J. F. Hassig, Kansas City.
Howard L. Snyder, Winfield.

KENTUCKY
J. Duffy Hancock, Louisville.
A. T. McCormack, Louisville.

LOUISIANA
A. A. Herold, Shreveport.
James Q. Graves, Monroe.

MAINE
William A. Ellingwood, Rockland.

MARYLAND
Harvey B. Stone, Baltimore.
Alfred T. Gundry, Baltimore.

MASSACHUSETTS
Cadis Phipps, Brookline.
Edmund P. Cody, New Bedford.
John M. Birnie, Springfield.
David D. Scannell, Boston.
Dwight O'Hara, Waltham.
Charles E. Mongan, Somerville.
Walter G. Phippen, Salem.

MICHIGAN
Henry A. Luce, Detroit.
T. K. Gruber, Eloise.
Frank E. Reeder, Flint.
Claude R. Keyport, Grayling.
L. G. Christian, Lansing.

MINNESOTA
W. F. Braasch, Rochester.
W. A. Coventry, Duluth.
Francis J. Savage, St. Paul.

MISSISSIPPI
Harvey F. Garrison, Jackson.

MISSOURI
R. Emmet Kane, St. Louis.
James R. McVay, Kansas City.

MONTANA
J. H. Irwin, Great Falls.

NEBRASKA
Roy W. Fouts, Omaha.
Karl S. J. Hohlen, Lincoln.

NEVADA
Horace J. Brown, Reno.

NEW HAMPSHIRE
Deering G. Smith, Nashua.

NEW JERSEY
Wells P. Eagleton, Newark.
Hilton S. Read, Ventnor.
Andrew F. McBride, Paterson.
Lucius F. Donohoe, Bayonne.

NEW MEXICO

NEW YORK
William A. Groat, Syracuse.
B. Wallace Hamilton, New York.
William D. Johnson, Batavia.
Floyd S. Winslow, Rochester.
Edward R. Cunniffe, New York.
Grant C. Madill, Ogdensburg.
Frederic C. Conway, Albany.
Thomas M. Brennan, Brooklyn.

NORTH CAROLINA

NORTH DAKOTA
A. P. Nachtwey, Dickinson.

OHIO
Barney J. Hein, Toledo.
C. E. Kiely, Cincinnati.
Claude B. Norris, Youngstown.

OKLAHOMA
W. Albert Cook, Tulsa.
McLain Rogers, Clinton.

OREGON
John H. Fitzgibbon, Portland.

PENNSYLVANIA
Francis F. Borzell, Philadelphia.
Charles A. E. Codman, Philadelphia.
Walter F. Donaldson, Pittsburgh.
Leonard G. Redding, Scranton.
Samuel P. Mengel, Wilkes-Barre.
David W. Thomas, Lock Haven.
J. Newton Hunsberger, Norristown.
Robert L. Anderson, Pittsburgh.
Frank P. Lytle, Birdsboro.
Charles G. Strickland, Erie.

RHODE ISLAND
Guy W. Wells, Providence.

SOUTH CAROLINA
Edgar A. Hines, Seneca.

SOUTH DAKOTA
J. R. Westaby, Madison.

TENNESSEE
H. H. Shoulders, Nashville.
E. G. Wood, Knoxville.
H. B. Everett, Memphis.

TEXAS
Holman Taylor, Fort Worth.
Felix P. Miller, El Paso.
Sam E. Thompson, Kerrville.

UTAH
John Z. Brown, Salt Lake City.

VERMONT
Benjamin F. Cook, Rutland.

VIRGINIA
Wright Clarkson, Petersburg.
Alexander F. Robertson Jr., Staunton.
Walter B. Martin, Norfolk.

WASHINGTON
R. L. Zech, Seattle.
John H. O'Shea, Spokane.

WEST VIRGINIA
Walter E. Vest, Huntington.
Ivan Fawcett, Wheeling.

WISCONSIN
Stephen E. Gavin, Fond du Lac.
James C. Sargent, Milwaukee.
Joseph F. Smith, Wausau.

WYOMING

ALASKA

HAWAII
F. J. Pinkerton, Honolulu.

ISTHMIAN CANAL ZONE
Lewis B. Bates, Ancon.

PHILIPPINE ISLANDS
Henry S. Waters, Iloilo.
Luis F. Torres Jr., Manila.

PUERTO RICO
M. de la Pila Iglesias, Ponce.

DELEGATES FROM THE SECTIONS AND GOVERNMENT SERVICES

PRACTICE OF MEDICINE
J. E. Paullin, Atlanta, Ga.

SURGERY, GENERAL AND ABDOMINAL
Fred W. Rankin, Lexington, Ky.

OBSTETRICS AND GYNECOLOGY
George Gray Ward, New York.

OPHTHALMOLOGY
Arthur J. Bedell, Albany, N. Y.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Burt R. Shurly, Detroit.

PEDIATRICS
William Weston, Columbia, S. C.

PHARMACOLOGY AND THERAPEUTICS
Russell L. Haden, Cleveland.

PATHOLOGY AND PHYSIOLOGY
L. W. Larson, Bismarck, N. D.

NERVOUS AND MENTAL DISEASES
Henry R. Viets, Boston.

DERMATOLOGY AND SYPHILOLOGY
Clyde L. Cummer, Cleveland.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
Stanley H. Osborn, Hartford, Conn.

UROLOGY
H. C. Bumpus, Pasadena, Calif.

ORTHOPEDIC SURGERY
Willis C. Campbell, Memphis, Tenn.

GASTRO-ENTEROLOGY AND PROCTOLOGY
Curtice Rosser, Dallas, Texas.

RADIOLOGY
E. H. Skinner, Kansas City, Mo.

UNITED STATES ARMY
George C. Dunham, Carlisle Barracks, Pa.

UNITED STATES NAVY
Edward H. H. Old, New York

UNITED STATES PUBLIC HEALTH SERVICE
Warren F. Draper, Washington, D. C.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1939-1940

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PRESIDENT-ELECT—Nathan B. Van Etten, New York.

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SECRETARY AND GENERAL MANAGER—Olin West, Chicago.

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SPEAKER, HOUSE OF DELEGATES—H. H. Shoulders, Nashville, Tenn.

VICE SPEAKER, HOUSE OF DELEGATES—R. W. Fouts, Omaha.

EDITOR—Morris Fishbein, Chicago.

BUSINESS MANAGER—Will C. Braun, Chicago.

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COUNCIL ON MEDICAL EDUCATION AND HOSPITALS—John H. Musser, New Orleans, 1940; Fred Moore, Des Moines, Iowa, 1941; Reginald Fitz, Boston, 1942; Fred W. Rankin, Lexington, Ky., 1943; Charles Gordon Heyd, New York, 1944; Frank H. Lahey, Boston, 1945; Ray Lyman Wilbur, Chairman, Stanford University, Calif., 1946; W. D. Cutter, Secretary, Chicago.

COUNCIL ON SCIENTIFIC ASSEMBLY—A. A. Walker, Birmingham, Ala., 1940; S. P. Mengel, Wilkes-Barre, Pa., 1941; Clyde L. Cummer, Cleveland, 1942; James E. Paullin, Chairman, Atlanta, Ga., 1943; J. Gurney Taylor, Milwaukee, 1944, and ex officio, the President-Elect, the Editor and the Secretary of the Association.

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BUREAU OF LEGAL MEDICINE AND LEGISLATION—J. W. Holloway Jr., Acting Director, Chicago.

BUREAU OF HEALTH EDUCATION—W. W. Bauer, Director, Chicago.

BUREAU OF INVESTIGATION—Paul C. Barton, Director, Chicago.

BUREAU OF MEDICAL ECONOMICS—R. G. Leland, Director, Chicago.

CHEMICAL LABORATORY—Paul Nicholas Leech, Director, Chicago.

LIBRARY—Marjorie Hutchins Moore, Librarian, Chicago.

NEW YORK THE METROPOLIS—FEATURES OF THE CONVENTION CITY

Twenty-three years have passed since the American Medical Association held an annual session in New York City. The year was 1917 and the attendance was 5,147.

The great metropolis of 1917 has become still greater in 1940. The face of the city has changed. There have been significant movements of its population. Methods of transportation have been revolutionized. Today the traveler approaches from the

EMPIRE STATE BUILDING, TALLEST BUILDING IN THE WORLD, 1,250 FEET ABOVE THE STREET LEVEL

land and from the sea, from the river and from the air, and through vast tunnels, many miles in length, which burrow from far away into the center of the city.

New York is not only the largest city in the United States but the largest city in the world, with a population well over 7,000,000 people. Its individual population in persons of various races and nationalities is in many instances greater by far than the largest cities of the countries from which the ancestors of these people came. Thus it becomes possible in this great city to find areas in which the people, the trade, the restaurants and the theaters appear as if one had been suddenly transported to a foreign country.

For literature and for the drama, for music and for journalism, for art and for commerce, New York is supreme as a center in this country. The magnificent wholesale and retail shops are in themselves a perennial exhibit of the most that modern industry has to offer. Once Fifth Avenue was known as the home of the great shops and Wall Street as the center of commerce. Today Wall Street is still a name with which to conjure, but the shops and trade have branched out far beyond their original confines. Persons especially interested will find great markets devoted to all the foods of the world. The drug industry is chiefly in lower Manhattan. The retail shops are now both on Park and on Fifth Avenue and on all the little streets between Park and Fifth avenues as far as Sixtieth Street. Art and antique dealers are found on Fifty-Seventh and adjacent streets and on Madison and Lexington avenues. Many antique shops are on Eighth Street, while the dressmakers and milliners and tailors are on all the little streets leading off of Park and of Fifth.

THE PARKS OF NEW YORK

There are 117 city parks in the New York area, of which the most famous is, of course, Central Park, extending from Fifty-Ninth to One Hundred and Tenth Street; famous for historical and similar interest is the Battery Park, site of the old Battery; the Aquarium; the City Hall Park; Roger Morris Park, which was the site of the home of Aaron Burr; Audubon Park, and Poe Park, the site of the Edgar Allan Poe cottage.

The art museums are magnificent and the sculptural treasures of the city are beyond compare. Especially fascinating is the Museum of Modern Art, which is at 11 West Fifty-Third

UPPER FIFTH AVENUE AT 42d STREET

Street. For music New York offers not only the Metropolitan Opera House but the famous Steinway, Chickering and Carnegie halls and more recently the Town Hall series of concerts. The scientific collections and the learned societies include the famed collection of the American Museum of Natural History, the Aquarium and Zoological Park, the latter under the control of the New York Zoological Society. There are several great

botanic gardens and special collections also developed by the New York Historical Society.

The theaters of New York and the plays available constitute, of course, the national theater of America. Among the largest are the Roxy and the Capitol, each seating 5,000 or more, as well as the great theaters of Radio City. The columnists who feature New York day by day in American newspapers have made the clubs and night clubs of New York as widely known in every town, village and hamlet as they are to the inhabitants of New York City.

The universities and colleges of New York are likewise known throughout the world. Fordham University, Columbia, the College of the City of New York, Hunter College, Manhattan College and many a technical institute are places of interest to visitors who seek knowledge of new methods of education.

Conscious of the fact that New York is the mecca of visitors from all over the world, its fabulous towers and buildings make special tours easily available. Thus one may visit the Empire State Building, the Rockefeller Center Group containing the broadcasting studios of the great National Broadcasting chain and the Columbia Broadcasting system.

For amusement and entertainment New York offers a number of major league baseball teams, innumerable night clubs, taverns and restaurants, a tremendous number of hotels with special facilities and nationally known orchestras, and more than 100 private and public golf courses.

Transportation about the city is had in any of the thousands of taxicabs maintained by various companies, innumerable busses, street cars, elevated roads and the subways.

In 1917 the Hotel Astor was the headquarters for the session, and the new Waldorf-Astoria had not yet been built. Then the

THE ROCKEFELLER CENTER-RADIO CITY DEVELOPMENT AS SEEN FROM FIFTH AVENUE

Scientific Exhibit was just beginning to be developed and was housed in the summer roof garden of the Hotel Astor. There were about thirty exhibits. Now the Scientific and Technical Exhibits will be housed in the Grand Central Palace, and there are more than 200 scientific exhibits alone. In 1917 the meeting was widely spread through hotels in various areas in the city; now through the building of many new hotels it has become possible to concentrate the meeting in a central hotel area of new and modernized buildings. The Technical Exhibit of 1917 occupied one floor of the Hotel Astor and included materials from 100 firms. The Exhibit this year includes the shows of approximately 250 firms, and it will occupy more than three floors of the Grand Central Palace. Now there are new sections, new general meetings, motion picture development, and many other features of tremendous importance.

At the New York session of 1917 the nation was at war. The session of 1940 faces a world again at war but our nation enjoy-

BATTERY PARK SHOWING THE AQUARIUM. IN THE VERY DISTANT BACKGROUND (NOT DISCERNIBLE IN THIS PICTURE) IS BEDLOE'S ISLAND, ON WHICH IS THE STATUE OF LIBERTY

ing the progress and the fruits of peace. Dr. Arthur Dean Bevan was elected president at the 1917 session—a recognition of his long service to the Council on Medical Education. The Fellows of the American Medical Association then numbered slightly more than 43,000, now almost 70,000. The members of the American Medical Association then included 81,000 and are now more than 116,000.

Now, almost twenty-five years have passed and the Association assembles again in New York City. Our world has changed, but there are nations still at war and a war threatens our own country. The problem of social insurance has resolved itself into the development of a health program for the nation. The House of Delegates at the 1940 session will find problems of the same serious concern as those which troubled the House of Delegates in 1917.

THE HOSPITALS AND MEDICAL FACILITIES OF NEW YORK

The Publick Workhouse and House of Correction were built by the city in 1736 on the site where the present City Hall stands. One room measuring 25 by 23 feet with six beds was set apart as a hospital ward. The first voluntary hospital was incorporated in 1771 by the Society of the Hospital of the City of New York in America. In 1810 the name was changed to the Society of The New York Hospital. Although many institutions were built before 1860, the hospital boom did not start till the decade following the Civil War. However, prior to this period a change in public attitude toward hospitals became discernible. Hospitals were no longer regarded as institutions for the poor exclusively; they began to be patronized to an increasing extent by patients who were able to pay for services. St. Vincent's Hospital, the first denominational hospital in the city, has also the distinction of being the first to provide comfortable private rooms for pay patients.

By 1848 Bellevue Hospital had become an important teaching institution, and in 1861 a medical school was opened in conjunction with this hospital. The first school of medicine in New York City goes back to 1767, when such a school was established in connection with King's College, thanks to the efforts of Dr. Samuel Bard and five other prominent physicians of the period.

At present within the boundaries of New York City proper there are 134 hospitals exclusive of proprietary hospitals, which number about seventy-five. Of the 134 hospitals 103 are under voluntary auspices and twenty-four are maintained by the city, three by the federal government and four by the state. The federal hospitals include those under the U. S. Public Health

Service and the Veterans' Hospital in the Bronx. The four state hospitals are for the care of the mentally sick.

The preponderating majority of the voluntary hospitals are of a general character. Of the special hospitals seven are for eye, ear, nose and throat conditions, nine for women and children and five for orthopedic patients. All these special hospitals are under the control of voluntary boards of trustees. The four hospitals for communicable diseases are maintained by the city, as are also four hospitals for tuberculosis. The other four tuberculosis hospitals are under voluntary auspices.

The total number of hospital beds in New York City is over 49,000. Of these 39.4 per cent are in governmental hospitals, 52.1 per cent in voluntary hospitals and 9.5 per cent proprietary institutions. Nearly a fourth of all general hospital beds are in four institutions of more than 1,000 beds each, and only 11.7 per cent of the beds are in the seventy general hospitals of less than 100 beds. With few exceptions the larger hospitals are government institutions and the very small hospitals pertain to the proprietary group. Exclusive of beds for tuberculosis, mental disease and acute communicable disease, the average number of hospital beds for 1,000 of the population is 4.5; that of the borough of Manhattan is double the ratio for the city as a whole.

The annual rate of occupancy of the hospitals as a whole is 76 per cent. The municipal and state hospitals show a much larger utilization percentage; they are overcrowded almost all the year. The total number of patients treated annually in New York is over 700,000—about 400,000 in voluntary hospitals, 250,000 in municipal hospitals and 60,000 in proprietary hospitals. The total number of days spent by patients in hospitals exceeds 15,000,000 annually. The average number of days of care per patient in the voluntary hospitals in New York City is 12.2 days as against 11.3 days in the United States as a whole; in the municipal hospitals it is 17.8 days as against 15.5 days in municipal hospitals of the country as a whole.

NIGHT IN GOTHAM. LOOKING SOUTHEAST FROM THE ROCKEFELLER CENTER. THE CHRYSLER BUILDING IS AT THE LEFT AND THE EMPIRE STATE BUILDING AT THE RIGHT

The annual maintenance bill of the hospitals of New York City comes to about $70,000,000, half of which goes for voluntary hospitals and about $26,000,000 for municipal hospitals. The average daily per capita cost in voluntary general hospitals is $6.45, while the daily operating cost in the voluntary special hospitals varies considerably with the type of condition treated. The maternity and children's hospitals have a daily average per capita cost of $6.42, the orthopedic $6.25 and the eye, ear, nose and throat $6.77. The cost in the municipal general hospitals averages $3.38 per diem. All these costs do not include allowances for depreciation.

The outpatient service in New York City is extensive and unrelated to the size or density of neighboring populations. According to the last survey made there were 268 outpatient services in New York City, ninety-nine of which constituted outpatient departments of hospitals and the remainder were independent dispensaries. The department of health operates twenty-nine of these units. In the hospital outpatient departments alone more than 1,600,000 patients are seen annually. These patients make over 7,000,000 visits. Since the depression, the dispensary service has increased considerably.

The hospital ambulance service of this city is among the first in point of time, as well as in the extent of its work. Ambulances are operated by the voluntary and municipal hospitals, and all are under supervision of the municipal department of hospitals. The city pays to the voluntary hospitals a stipulated sum per ambulance annually. The ambulance service in New York City has been and still is grossly abused by the populace. About 350,000 ambulance calls are made annually, more than half of which are for persons with minor ailments not requiring removal to a hospital.

As an integral component of the hospital domain there are in operation sixty-three units of service for convalescent care.

THE METROPOLITAN MUSEUM OF ART, FIFTH AVENUE AT 82nd STREET

NIGHT VIEW OF THE HAYDEN PLANETARIUM, 81st STREET AT CENTRAL PARK WEST

Some New York Medical Schools

ABOVE: NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, 303 EAST 20th STREET

LEFT: NEW YORK MEDICAL COLLEGE, FLOWER AND FIFTH AVENUE HOSPITALS, FIFTH AVENUE AT 105th STREET

RIGHT: LONG ISLAND COLLEGE OF MEDICINE, 340 HENRY STREET, BROOKLYN

Almost all the institutions for convalescent care serving New York are outside the city limits. The available beds in these institutions number about 4,500; this comprises one half of the available charitable convalescent home accommodations in the United States. The ratio of institutional convalescent beds to the population in New York City is 59.5 beds for every hundred thousand inhabitants, while in the country as a whole there are 7.1 beds per hundred thousand of population. In spite of these comparatively abundant facilities only 5.3 per cent of the New York hospital ward patients are admitted to convalescent homes. The average cost of maintenance of a patient in a convalescent home is $2.50 a day.

In round figures there are 16,000 registered physicians in New York City. According to a sampling test made several years ago it would appear that as many as 94.8 per cent of all physicians in active practice have some affiliation with a hospital or dispensary service. Over 70 per cent of the physicians had an affiliation with a hospital inpatient service; 10.5 per cent of the physicians had only courtesy staff privileges and 13.6 per cent with an outpatient service of a hospital or with an independent dispensary. If these figures, obtained in the course of the recent hospital survey, are correct, they indicate a considerable improvement in the situation during the last decade. With the exception of eleven, all the voluntary hospitals in New York City having private and semiprivate services had courtesy staffs on July 1, 1935.

Forty-three hospitals are affiliated with medical schools. As a result of the cooperation which has been established through the Academy of Medicine between the pathologists and hospital administrators on the one hand, and the Metropolitan Funeral Directors Association on the other, an improvement in relations has been secured which has resulted in more than 30 per cent of consent for necropsies.

There are five medical schools in the city; three of them are the medical departments respectively of Columbia University, Cornell University and New York University. The two other medical schools are under independent auspices: the Long Island College of Medicine, located at 350 Henry Street, Brooklyn, and the New York Medical College at One Hundred and Sixth Street and Fifth Avenue. Five general hospitals are affiliated with the medical schools: Presbyterian Hospital with the College of Physicians and Surgeons of Columbia University, the New York Hospital with Cornell University Medical College, Bellevue a threefold affiliation with Columbia, Cornell and the College of Medicine of New York University, and Flower and Fifth Avenue Hospital with the New York Medical College. The Long Island College Hospital is associated with the Long Island College of Medicine.

ABOVE: COLUMBIA-PRESBYTERIAN HOSPITAL MEDICAL CENTER, 622 WEST 168th STREET

RIGHT: CORNELL MEDICAL CENTER, 68th TO 71st STREET

Just as the United Hospital Fund of New York and the Hospital Council of Greater New York exercise a certain amount of coordination in the vast hospital field, so does the New York Academy of Medicine afford a common meeting ground for the research and educational work in the medical realm. The Academy of Medicine is located on Fifth Avenue and One Hundred and Third Street, and its library is open daily to the public from 9 a. m. to 5 p. m. All the meetings of the academy and its eleven sections are open to the profession generally.

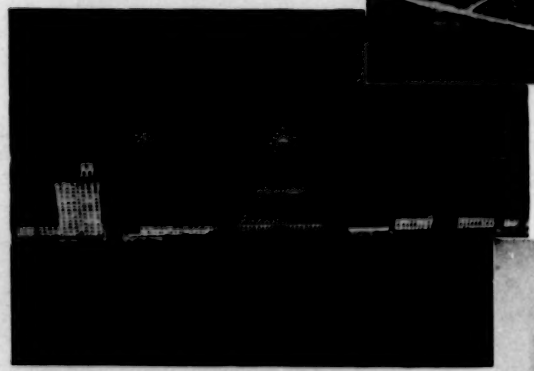
MEDICAL SERVICE AT THE FAIR

Medicine plays a vital part in insuring the welfare of the millions of visitors who will crowd the fair grounds during the season. Under the supervision of Dr. J. Peter Hoguet, medical director of the fair, a comprehensive medical program has been devised to treat every type of medical emergency that may arise at the fair. The medical facilities are the result of several years of careful planning, so that visitors in need of medical attention

Some New York Hospitals

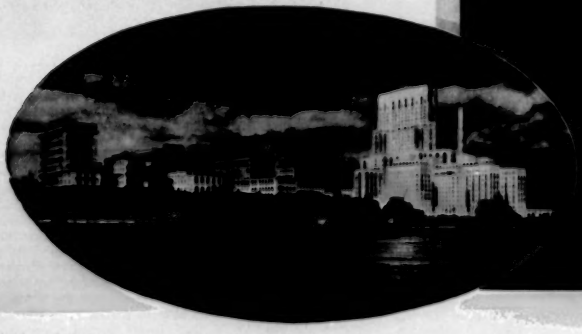
THE DOCTORS HOSPITAL,
170 EAST END AVENUE

ABOVE: NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL, 413 EAST 30th STREET



BELOW: FRENCH HOSPITAL, 330 WEST 30th STREET

ABOVE: MOUNT SINAI HOSPITAL, 1 EAST 100th STREET. BELOW: THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, NEW YORK HOSPITAL AND CORNELL MEDICAL CENTER, 525 EAST 68th STREET



on the site may be assured of receiving the highest ethical standard of treatment.

Medical emergencies at the New York World's Fair are met by four first aid stations. Each provides a waiting room surgery, nurses' and doctors' rooms, and wards for men and women. Serious cases are temporarily hospitalized and transfer is made later to outside hospitals by ambulance. The Fair Corporation operates five air conditioned ambulances.

HEALTH SERVICE AT THE FAIR

The New York City Department of Health has established in cooperation with the Fair Corporation a branch of its activities on the fair grounds under the direction of Dr. John G. Grimley, special deputy commissioner of health. The work of this department is preventive in character. It deals with the problems of water supplies, plumbing, foods, milk supplies, disposal of sewage and garbage, communicable diseases, industrial hazards, smoke, obnoxious gases and vapors, noises, flies, mosquitoes and vermin.

The efficacy of this department has been implemented by special sanitary regulations passed by the board of estimate of New York. These regulations have been passed to strengthen the sanitary code of the city of New York because of the specific problems related to safeguarding the health of so vast an influx of people. A staff of thirty-five health inspectors thoroughly trained in food and sanitary inspection daily inspect the fair's 600 eating and drinking establishments to see that the rigid rules of sanitation set up at the fair for the protection of its visitors are kept to the letter.

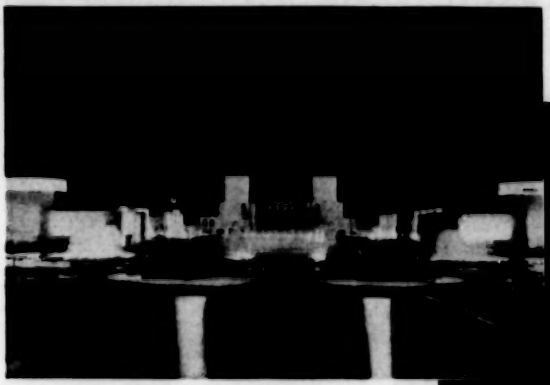
All food handlers are examined once a month and a card is issued which must be produced, on request, by the health inspectors.

Lavatory facilities are provided in all kitchens for the use of kitchen help only, with the proper requisites of soap, hot and cold running water and individual towels.

Under the terms of these special regulations all glasses, cutlery and crockery used in food purveyance anywhere in the fair are required to be properly washed in a solution of soap, soda or other suitable cleansing powder and treated before each use with a final rinse of hot water at 175 F. for a period of one minute, the temperature to be registered by a thermometer. These installations must be equipped with a locking and timing device to guarantee the time required of one minute.

Another instance of the rigid precautions exercised by the health department of the fair is to be found in its eradication of all probable breeding places of mosquitoes and other insects on the fair site. An interesting feature of this activity is a completely equipped laboratory where all entomologic specimens caught on the fair grounds in specially constructed traps are examined and classified so that the fair has a complete check on any potential insect menace to the health of its visitors.

Special machinery has been set up for the disposal of garbage and the thorough cleansing and disinfecting of all garbage containers.



ABOVE: COURT OF PEACE, NEW YORK WORLD'S FAIR

RIGHT: U. S. GOVERNMENT BUILDING, NEW YORK WORLD'S FAIR

The completely coordinated program assures each visitor to the New York World's Fair of every protection to his health and welfare that human efficiency and medical science can provide.

MEDICINE AND PUBLIC HEALTH AT THE WORLD'S FAIR

The New York World's Fair joins with the city in playing host to the visiting members of the American Medical Association, and two special days have been arranged for June 14 and 15. Special admission arrangements have been made, details of which will be available at the convention headquarters. The House of Delegates will be entertained at the fair on June 10.

With an endless variety of places to go within this city that is called the World's Fair, it still is safe to predict that visiting doctors will direct their footsteps most frequently to the building which is devoted to the subject nearest their interests —Medicine. The Medicine and Public Health exhibits presented by the American Museum of Health and its collaborators are housed in a building symbolically located at the heart

of the fair, on Constitution Mall and the Theme Plaza, where stand the impressive Trylon and Perisphere.

The exterior decorations of the building provide an index of the character of its contents. Dominant among these is the depiction of Modern Medicine, a 34 foot square mural, by Hildreth Meiere, showing a physician pointing out to ailing humanity all the resources of modern medical science. In the interior two magnificent murals, each 71 feet long, provide an integral chapter in the story of man and his health, to which this building is devoted. These murals, the work of WPA artists, portray the history of medicine and the effect of medical science on civilization. In the development of these murals

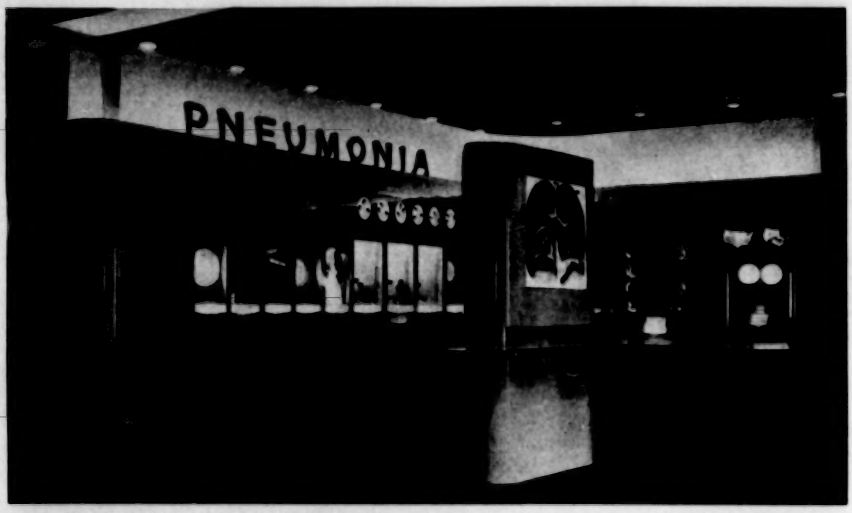


EXHIBIT ON PNEUMONIA IN HALL OF MEDICINE, NEW YORK WORLD'S FAIR, SPONSORED BY LEDERLE LABORATORIES

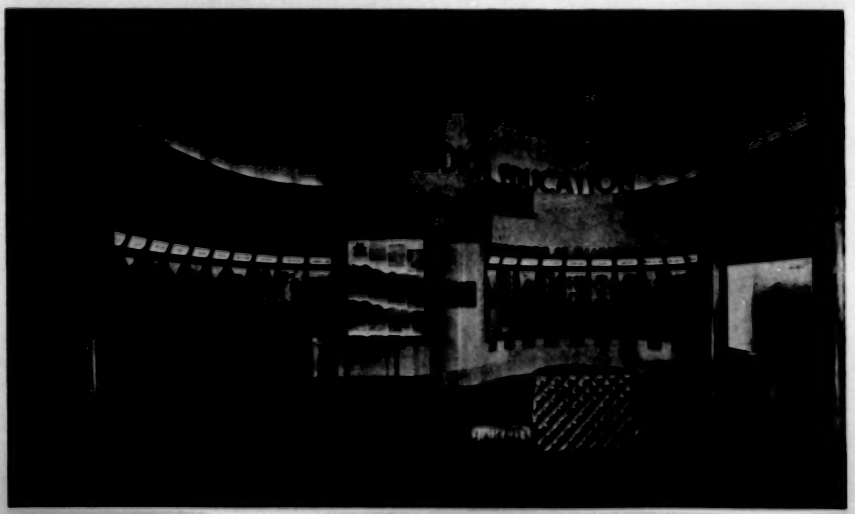


EXHIBIT ON MEDICAL EDUCATION, SPONSORED BY THE AMERICAN MEDICAL ASSOCIATION, AT NEW YORK WORLD'S FAIR

the artists had the benefit of the guidance of Dr. Arthur W. Booth, of the Board of Trustees of the American Medical Association.

One of the largest and most beautiful structures at the fair, and one of the most popular buildings during the 1939 fair season, the Medicine and Public Health Building contains some of the most dramatic exhibits in the exposition. Although designed primarily to bring accurate medical and public health knowledge to the great mass of the people, the exhibits have much to offer scientists and professional people who as individuals are vested with the responsibility of promoting health and conserving life. The physician, surgeon, research man and educator will be interested in the exciting technic employed to dramatize facts well known to them. Supplementing the exhibits are motion picture films of popular appeal relating to medicine and public health, which are presented daily in the auditorium in this building. The auditorium is available also to scientific, medical and educational societies for meetings and conventions.

The most popular of the fair's focal exhibits is the Hall of Man, which dominates the medical building. Its theme is expressed on a prominent entablature by an excerpt from the writings of St. Augustine: "Man wonders over the restless seas, the flowing water, the sight of the sky and forgets that of all wonders man himself is the most wonderful." Pictorially this quotation is presented on a huge curved wall in the dramatic exhibit the "Pulsation of Life." The sound of a persistent, measured pulsation permeates the hall. Mysterious at first, it is discovered emanating as the heart beat of the imposing 22 foot figure of a man as he emerges from the vast cosmic panorama which covers one end of the long hall. Here too, bathed in a white light, stands the life size figure of the Transparent Man. By lights synchronized with a lecture, the Transparent Man shows the location of the chief organs of the body and describes their functions.

Surrounding this theme exhibit are displayed materials from the famous Oberlaender Trust collection. In novel and exciting fashion the exhibits are grouped for easy comprehension into sections on Walking and Working, Eating and Drinking, the Blood, Air, Sun and Water, the Five Senses and the Marvel of Heredity. A purpose of the Hall of Man is to satisfy man's natural curiosity about himself. Here he sees how he functions in his various parts, what a perfectly integrated organism he is, and how precious is his heritage of a healthy body.

Many of the exhibits are operated by the visitor. The theory behind this new technic in popular health education is that what is self taught is best learned. Among these are the spirometers, enabling visitors to see how much air is expelled from the lungs with every exhalation. Ergographs measure muscular strength and fatigue of the hands. A "Pain Man" indicates, on the pressing of buttons, where pain most frequently occurs, and charts indicate the probable cause of pain in that region and the organ from which it originates.

Enlarged models of various organs show their structure and their functioning. New exhibits in this hall will include a section on Glands, a new and fascinating subject to scientists and lay person alike, the Blood Corpuscle and the Action of the Heart. A great favorite with the public are the exhibits on the Marvel of Heredity combined with the transparent specimens of human embryos, which tell the story of the beginnings of human life and its development. A moving talking skeleton lectures on the human framework and the more than 200 bones which comprise it.

A special section in this hall deals with the vital statistics of the United States population, its past, present and future. A large meter records the change in population as babies are born and people die.

The Hall of Man was sponsored and organized by the American Museum of Health, Inc., and made possible through the generous assistance of the Carnegie Corporation of New York, the Oberlaender Trust and nine prominent insurance companies: Metropolitan Life, New York Life, the Traveler's, John Hancock Mutual Life, Aetna Life, the Provident Mutual Life, Connecticut General Life, the Connecticut Mutual Life and the Guardian Life of America. It was designed by Ian Woodner in consultation with Homer N. Calver, secretary of the museum and director of health exhibits at the fair, and Dr. Bruno Gebhard, technical consultant. Mr. George McAneny, president of the museum, and Dr. Louis I. Dublin, chairman of the board, were active in the organizational work which provided the financing for this impressive exhibit.

The museum is also sponsoring the Focal Exhibit in the Hall of Medical Science. This is "Mac," the Mechanical Man, a four times life size model of the human torso shown for the first time in this country at the fair. His debut under the name of "Godfrey" was made at the Glasgow exposition in 1938, where he caused a sensation in the British pavilion. Lent to the museum by the British Ministry of Health, "Mac" shows in mechanical terms the working of human internal organs. The eye is represented as a camera, the brain an instrumental panel, memory a library, the heart a pump, the glands as test tubes. A lecture is synchronized with the mechanical movements of man's organs, explaining their functions.

EXHIBIT ON BLOOD DISEASES AND DIABETES IN THE HALL OF MEDICINE, NEW YORK WORLD'S FAIR, SPONSORED BY ELI LILLY AND COMPANY

Around this focal exhibit the newest chapters of medical science and public health methods are presented under the sponsorship of prominent medical, dental and public health organizations, philanthropic foundations and highly ethical pharmaceutic houses. All the exhibits were created under the supervision of scientists to assure their accuracy.

In the center of the hall is the exhibit on Medical Education sponsored by the American Medical Association. It is designed to demonstrate to the public how thoroughly and completely trained in a wide variety of fields are the doctors of this country. A series of dioramas, transparencies and models illustrate the basic sciences, in which every medical student must have a thorough foundation. Each section has an element of visitor participation—he either makes something work or he illuminates various transparencies when a button is pushed. A large diorama presents eight years in the life of a medical student, emphasizing the fact that there are no short cuts to knowledge

in this field. Scenes of premedical training show the grounding in the sciences which students must have before entering medical school. Another section deals with the period of internship and finally the emergence of the full-fledged practicing physician. A companion exhibit deals with subjects in clinical medicine, and the extensive training of the doctor who becomes a specialist.

Lederle Laboratories, Inc., presents two exhibits on subjects in which practically every individual has a special interest. In the exhibit on Allergy three stories are told: Tommy Todd's

MURAL IN THE MEDICINE AND PUBLIC HEALTH BUILDING, NEW YORK WORLD'S FAIR, REPRESENTING MEDICINE IN PRIMITIVE TIMES

Autumn Colds, Baby Bing's Eczema and Mrs. Tucker's Wheezes. The doctor's detective work determines that the characters are not suffering from colds, eczema and wheezes but rather from an allergic sensitivity to certain foods, plants and irritants. How the physician finds the cause and controls the symptoms is graphically shown. A separate panel gives sixteen photographs of various scenes, each concealing a common allergic cause of hay fever, eczema, and so on, and the culprit excitant is revealed in color by pressing an electric button after the visitor has made his own guess.

Sulfapyridine, the new miracle worker, will be the feature in Lederle's exhibit on Pneumonia. The use of this new development of medical science has only this past winter been widely adopted, and extensive changes have been made in the Pneumonia exhibit to introduce a demonstration of its use. Dioramas present the story of pneumonia from the early "cold" stages to its cure by specific treatment.

The story of modern Anesthesia is presented in the exhibit sponsored by the Winthrop Chemical Company, Inc. The

MURAL IN THE MEDICINE AND PUBLIC HEALTH BUILDING, NEW YORK WORLD'S FAIR, EPITOMIZING THE WORK OF VESALIUS, PARE, HARVEY, LAENNEC, THE DISCOVERY OF ANESTHESIA, ROENTGEN AND PASTEUR

method employed is a reproduction of an up-to-date operating room in action. By the use of life size mechanized figures the application and effects of inhalation anesthesia are dramatically shown and other units demonstrate different methods and features of anesthesia.

A great step forward in life conservation was taken with the discovery of insulin, and the Eli Lilly & Company exhibit on Diabetes shows that insulin, the internal secretion of the pancreas, is the one substance which correlates the functions of the various organs affected when the body is unable to utilize sugar and starch. Transparencies present the symptoms, diagnosis, causes and treatments of diabetes. Another exhibit sponsored by this company deals with anemias and other blood disorders. Two giant test tubes offer a comparison between normal and anemic blood. New methods of therapy used in the cure of blood disease are a feature of the exhibit.

W. A. Baum Company, Inc., presents in the Hall of Man an exhibit on Blood Pressure. A device 19 feet tall is a representation of the human blood pressure and its fluctuations. At its base a life size figure shows the blood circulatory system, with a heart flashing seventy times a minute demonstrating that the heart is the dynamo originating blood pressure. The importance of blood pressure as an indication of the state of health is brought out in a series of statements on the need for periodic health examinations.

Healthy children are not only born, they are "made" to a certain extent according to the exhibit on Child Health, Normal Growth and Development sponsored by Mead Johnson & Company. The prevention of diseases is an important feature of the exhibit, while a special section is devoted to the relationship between learning and health, demonstrating how cooperation between school and parents helps to assure normal development during school years.

The Medical Society of the County of Queens, Inc., a unit of the American Medical Association, is sponsoring what is described as "A Survey of the Need for Medical Care of the Apparently Well as Revealed by an X-Ray of the Chest."

Roentgenograms are taken in a few seconds, and a report by competent physicians is sent to the family physician of the visitor.

The three recognized methods of the treatment of cancer, surgery, x-rays and radium, are dramatically presented in the exhibit on Cancer sponsored by the New York City Cancer Committee of the American Society for the Control of Cancer. Dioramas show stages of the development of these treatments, including replicas of laboratories in which the epoch making

discoveries of Roentgen and the Curies were made. On an illuminated figure the growth of a tumor of the breast and its spread are indicated. Some of the means for carrying on research in the cause and cure of cancer are also portrayed.

First Year of Life is one of the most popular exhibits located in the Hall of Man. Sponsored by the Maternity Center Association, Gerber's Baby Foods and Karo, the exhibit consists of a series of detailed life size models showing the life of a baby from the time of conception until he takes his first breath.

Viruses and Virus Diseases is the third of the Rockefeller Foundation exhibits and one which ranked high in interest with professional visitors. The latest results of medical research in this field are presented as well as the means used by science to detect and study these midget bacteria which are believed responsible for such well known diseases as infantile paralysis, measles, rabies, scarlet fever and whooping cough.

An exposé of the incredible story of medical superstitions in America is the amusing yet important exhibit sponsored by the

MURAL IN THE MEDICINE AND PUBLIC HEALTH BUILDING, NEW YORK WORLD'S FAIR, INDICATING THAT ADVANCES IN MEDICAL SCIENCE BRING PARALLEL ADVANCES IN BROAD SOCIAL AIMS

Photographs demonstrate how a modern prospective mother and father get ready for the new baby and how they care for it during its first three months after birth. A staff member from the association and pamphlets on maternity supplement the information given in the exhibit.

Physicians as well as the public would like to know the answer to the question How can you keep warm in winter, cool in summer? The John B. Pierce Foundation exhibit on Housing for Health provides answers to this and many other questions, as it presents a scientific approach to healthful living in the home.

The Rockefeller Foundation and its International Health Division are responsible for three exhibits, two of them new features in the Hall of Medical Science this year. Man Spreads

Bayer Company. A Maze of Superstitions in the Hall of Man enjoyed among the highest number of visitors of any of the exhibits in the building. Consisting of a labyrinth of twists and turns, the exhibit brings to light many popular beliefs of the day which are as fantastic as any practiced during the Dark Ages.

Dominating the exhibit of the Shadow on the Land, which Parke, Davis & Company sponsors, is a giant microscope under the lens of which may be seen the insidious and minute organism which causes syphilis—Spirochaeta pallida. Talking dioramas present a physician and his patient, who thoroughly discuss the nature of the disease and its treatment. The prevalence of syphilis is graphically and unmistakably portrayed.

MURAL IN THE MEDICINE AND PUBLIC HEALTH BUILDING, NEW YORK WORLD'S FAIR, EPITOMIZING THE HOPES OF MEDICINE FOR THE FUTURE

Disease is a popular introduction to the science of infectious diseases. The central feature shows how man himself is the source of many infections and how he spreads diseases as contagious as tuberculosis, influenza, typhoid and venereal diseases.

The Story of Diphtheria demonstrates the main principles of immunity. It shows how medical science has learned to help the body equipped by nature to defend itself against invading germs in its fight against infection and dramatizes the successful control of such murderous diseases as diphtheria by means of preventive immunization.

What the public should know about the spread and control of tuberculosis is simply and forcibly told in the exhibit sponsored by the National Tuberculosis Association and the Brooklyn, New York and Queensboro Tuberculosis and Health Associations. Trained assistants answer questions; a movie supplements panels and transparencies which show the diagnosis, the transmission, the effect, the spread and the treatment of tuberculosis.

Contributions of veterinary science to human medicine are illustrated in the exhibit sponsored by the American Veterinary

Medical Association and Allied Interests. Various types of veterinary service are shown—the relation of milk and meat inspection to human health, and the usefulness of livestock to mankind. Units deal with such subjects as hog cholera, equine sleeping sickness and the care of small animals. A section on diet proves a popular feature.

The American Dental Association sponsors an exhibit on Your Dental Health, featuring the necessity of proper care and treatment of the teeth and emphasizing the importance of early attention to children's teeth. Examples of orthodonture is a new feature in the exhibit, while ways and means of preventing decay and pyorrhea provide definite preventive information. A special section illustrates the intensive training which is required of the modern dentist.

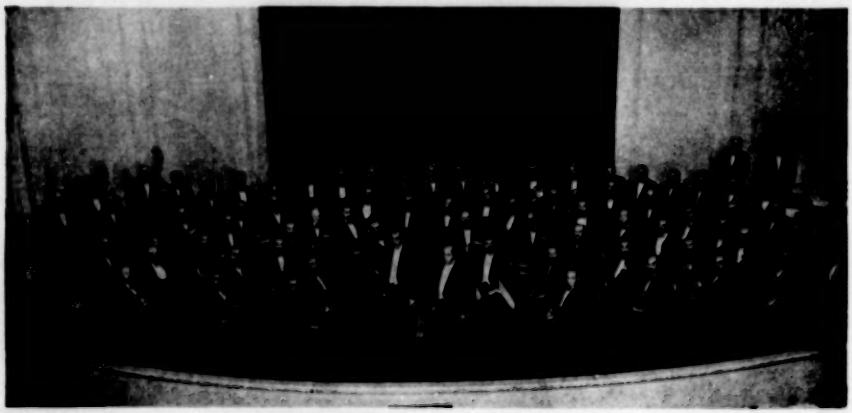
How the health department protects the family is the subject of an exhibit on public health administration which the American Museum of Health presents in its program of health education. How the expectancy of life has increased in the last fifty years and by what methods this increase has been achieved is the main feature of the exhibit. A special device enables the visitor to check his average life expectancy. A demonstration of home care in communicable diseases proved a most popular addition to this exhibit.

What is Your Health I. Q.? is another of those quiz programs, which are always popular. In this section, which is presented by the American Social Hygiene Association with the cooperation of the United States Public Health Service, the visitor may test his knowledge of syphilis, gonorrhea and related health problems. The exhibit is part of a study with a twofold purpose (1) to determine the present knowledge of and attitudes toward the so-called venereal diseases and (2) to provide fundamental information on which to base a continuing program of individual and community education in social hygiene.

Infantile Paralysis provides a subject of national interest, and the exhibit sponsored by the National Foundation for Infantile Paralysis brings to the Hall of Medical Science the new developments in the fight to stamp out this scourge.

At the time of going to press, several other new exhibits in this hall are in preparation. Announcements on them will be made at a later date, and the seven and a half million visitors who came to the Medicine and Public Health Building last season will find many new features to make a second visit to this building well worth while.

In addition to the Medicine and Public Health Building exhibits, physicians will want to visit the many foreign buildings and the New York State and City buildings, where special sections are devoted to the work of health departments and agencies. The Federal Building devotes one of its twelve themes to Social Welfare; and striking dioramas, animated murals and transparent sculptures illustrate the many ways in which the federal government protects the health of the people by working with states and communities on public health problems. Many of the industrial buildings too include the important subjects of health and medical and scientific research in their exhibits.



THE DOCTORS ORCHESTRA, NEW YORK, FOUNDED IN 1936. CONDUCTOR, IGNATZ WAGHALTER

REGISTRATION

The Bureau of Registration will be located on the second floor of the Grand Central Palace, Lexington Avenue between 46th and 47th streets. Members of the Subcommittee on Registration of the Local Committee on Arrangements will be on hand to assist those who desire to register. A branch postoffice in charge of government postoffice officials will be available for visitors, and an information bureau will be operated in connection with the Bureau of Registration.

Who May Register

Only Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL and paid their Fellowship dues for the current year. Fellowship dues and subscription to THE JOURNAL are included in the one annual payment of eight dollars, which is the regular subscription price of THE JOURNAL. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1940 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

Members in Good Standing Eligible to Apply for Fellowship in the Association

Members in good standing in the American Medical Association are those members of component county medical societies and of constituent state and territorial medical associations whose names are officially reported for enrolment to the Sec-

retary of the American Medical Association by the secretaries of the constituent medical associations. All members in good standing may apply for Fellowship in the Scientific Assembly and are urged to qualify as Fellows before leaving home in order that pocket cards may be secured and brought to New York so that registration can be more easily and more promptly effected.

Application forms may be had on request.

Those subscribers to THE JOURNAL who have not received pocket cards for 1940 should write to the American Medical Association in order to obtain application blanks and information as to further requirements.

Register Early

Fellows living in New York City, as well as all other Fellows who are in New York City on Monday and Tuesday, should register as early as possible. The names of those who register will be included in the issue of the *Daily Bulletin* appearing the next day, and this will enable visiting physicians to find friends if they have registered.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card and sign the application on the back. These cards will be found on the tables.

Entries on the registration cards should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*, published on Tuesday, Wednesday, Thursday and Friday of the week of the session.

Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with the pocket card, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a badge, a copy of the official program and other printed matter of interest to those attending the annual session.

As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than May 20. Any applications that are received later than May 20 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time for him to register at the New York session.

It will be possible for members of the organization to qualify as Fellows at New York. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and to sign the formal application that is printed on the reverse side of the card. It is suggested that those members who apply for Fellowship at New York bring with them their state membership cards for the year 1940. The state membership card should be presented along with the filled in *blue* registration card at the window in the booth marked "Applicants for Fellowship and Invited Guests."

As already stated, registration can be effected more easily and more promptly if members will qualify as Fellows before leaving home.

Registration for General Officers and Delegates at The Waldorf-Astoria

General Officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly in the Basildon Room, adjacent to the Jade Room of The Waldorf-Astoria. This arrangement is made for the convenience of the members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the Jade Room of The Waldorf-Astoria. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock, Monday morning, June 10, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.

TRANSPORTATION

Railroad Rates to New York

Because of the reduction in one way fares effective June 1, 1936, the use of convention fares has been discontinued in the territories of railway passenger associations.

AN AERIAL VIEW OF DOWNTOWN MANHATTAN. BATTERY PARK IS AT THE LEFT AND THE HUDSON RIVER IN THE BACKGROUND

In the territory of the Central Passenger Association and in that of the Trunk Line Association, round trip fares good in sleeping or parlor cars or coaches may be in effect at the time of the annual session. Moreover, there is in effect daily in these territories a round trip twenty day limit party fare of approximately 1½ cents a mile for groups of twenty-five or more traveling together on one ticket and returning individually. The suggestion is offered that members of the Association traveling to New York from the territories of the Central Passenger and Trunk Line associations consult their ticket agent a week or so in advance of the time at which they expect to start to New York for the exact rates that will be in effect then, not only for individuals but also for parties that may be traveling together.

In the territory of the Southern Passenger Association, daily round trip fares are in effect to New York on the basis of 2½ cents a mile in each direction to the gateways of its territory, plus double the one way first class fares therefrom, with limit of six months in addition to date of sale, tickets being honored in sleeping or parlor cars on payment of charges for space occupied. Moreover, reduced fares are in effect on a slightly lower basis from all points in the Southern Passenger Association territory to New York for tickets which bear a limit of thirty days in addition to the date of sale.

In addition to the fares which have just been mentioned, there will be in effect special reduced fares from the South to New York on account of the New York World's Fair 1940.

In the territory of the Trans-Continental and Western Passenger associations low round trip fares will be in effect daily for travel in sleeping and parlor cars on payment of the usual

charges for space occupied. In a part of these territories low intermediate class fares, good for transportation in tourist sleeping cars, will also be available on payment of charges for space occupied.

In the territory of the Canadian Passenger Association, in addition to one way tickets, round trip tickets may be purchased which are computed on the basis of 10 per cent less than double one way fares, bear limit of six months from date of sale and are available for stop over privileges. Moreover, summer or other reduced fares are in effect during certain parts of the year, details of which are available on application to any railway agent.

For information regarding specific fares and the most advantageous arrangements from starting points, all members who expect to attend the annual session in New York are urged to consult their local ticket agents.

Air Travel

By air, New York is just a few hours from most important cities in the United States. Sleeper accommodations are available on overnight journeys on most of the transcontinental services. Your nearest Airline Ticket Office, Travel Bureau, Hotel Transportation Desk or Western Union or Postal Telegraph Office will gladly arrange your itinerary.

NEW YORK HOTELS

A list of New York hotels is presented for the benefit of those who expect to attend the annual session of the American Medical Association, June 10-14. Dr. Peter Irving is chairman of the Subcommittee on Hotels of the Local Committee on Arrangements and may be addressed at Room 1036, 233 Broadway, New York, N. Y. The advertising announcement and coupon for reservations appear on advertising page 88 of this issue.

Since reservations are cleared through the subcommittee on hotels, it will greatly expedite matters if requests for reservations are addressed directly to Dr. Irving, who, as stated, may be reached at Room 1036, 233 Broadway, New York, N. Y.

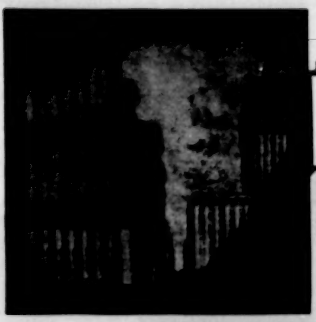
Schedule of Rates

Hotels	For 1 Person	For 2 Persons: Double Bed	For 2 Persons: Twin Beds	Suites
Alden 225 Central Park W.	$4.00-$5.00	$5.00-$6.00	$5.00-$6.00	$7.00-$10.00
Algonquin 59 W. 44th St.	3.50- 4.50	5.00- 7.00	5.00- 7.00	7.00- 10.00
Allerton House 143 E. 39th St.	2.00*			
Ambassador 51st St. and Park Ave.	6.00- 8.00		8.00-10.00	12.00- 30.00
Barclay 111 E. 48th St.	6.00- 7.00		8.00-10.00	14.00- 17.00
Belmont-Plaza Lexington Ave. and 49th St.	3.00- 4.00	5.00- 6.00	6.00- 7.00	9.00- 25.00
Berkeley 170 W. 74th St.	2.50- 4.00	3.00- 4.50	3.50- 5.00	4.00- 6.00
Beverly Lexington Ave. and 50th St.	4.00	5.00	6.00- 7.00	8.00- 25.00
Biltmore Madison Ave. and 43d St.	5.00- 7.00	7.00-10.00	7.00-10.00	15.00- 18.00
Bristol 129 W. 48th St.	2.50- 4.00	4.00- 5.00	6.00- 7.00	8.00- 10.00
Capitol Eighth Ave. and 51st St.	2.25*-3.50	5.50- 8.00	6.50- 9.00	10.00- 14.00
Cardinal 243 West End Ave.	3.00		4.00	5.00
Collingwood 45 W. 35th St.	3.00- 6.00	4.50- 8.00	6.50- 9.00	8.00- 10.00
Commodore Lexington Ave. and 42d St.	3.00- 5.00	5.00- 6.50	6.00- 8.00	10.00- 18.00
Concourse Plaza Gr. Concourse and 161st St.	3.00	4.50	4.50	6.00- 10.00
Dorset 30 W. 54th St.	5.00		6.00- 7.00	10.00- 18.00
Drake 440 Park Ave.	6.00		8.00	10.00- 18.00
Empire Broadway and 63d St.	2.50	3.50	4.00	7.00- 10.00
Essex House 160 Central Park South.	6.00- 7.00	8.00- 9.00	8.00- 9.00	10.00- 22.00
Fifth Avenue Hotel Fifth Ave. and Ninth St.	4.00- 5.00		6.00- 8.00	7.00- 12.00
Forrest 224 W. 49th St.	3.50- 6.00	5.50- 8.00	6.50- 9.00	10.00- 14.00
George Washington 23d St. and Lexington Ave.	2.50- 4.00	3.50- 5.00	4.00- 6.00	
Governor Clinton Seventh Ave and 31st St.	3.50- 4.00	5.00- 6.00	6.00- 8.00	8.00- 20.00
Greystone Broadway at 91st St. (2 rooms, connecting bath, 4 persons, $7.00 each)	2.50- 3.00	3.50	4.00	
Hamilton 141 W. 73d St.	3.00		4.00	6.00- 8.00
Herald Square 116 W. 34th St.	2.00*-2.50*	4.00*-5.00	6.00	
Kenmore Hall 145 E. 23d St.	2.00- 2.50	3.50- 5.50	4.00- 6.00	5.00- 8.00
Knickerbocker 120 W. 45th St.	2.50- 4.00	4.00- 6.00	5.00- 6.00	7.00- 10.00
Lincoln Eighth Ave. and 44th St.	3.00- 4.50	4.00- 6.50	4.50- 6.50	9.00- 12.00

Hotels	For 1 Person	For 2 Persons: Double Bed	For 2 Persons: Twin Beds	Suites
Marcy 730 West End Ave.	3.00- 5.00		4.00- 6.00	7.00- 9.00
Martinique Broadway and 32d St.	1.50*-2.00*	3.00	3.00*-3.50* 3.50- 4.50	4.00- 5.00	8.00- 10.00
McAlpin Broadway and 34th St.	3.50- 5.00	5.00- 6.00	5.00- 9.00	10.00- 15.00
Midston House 22 E. 39th St.	2.25*			
New Weston Madison Ave. and 50th St.	4.00- 6.00		6.00- 9.00	12.00- 24.00
New Yorker Eighth Ave. and 34th St.	3.50- 5.00	5.00- 7.00	6.00-10.00	8.00- 21.00
Park Central Seventh Ave. and 54th St. (2 room suite, 4 persons, $2.50 each)	4.00- 4.50	5.00- 6.00	6.00- 7.00	7.00- 8.00
Park Chambers 68 W. 58th St.	3.00		4.00	6.00- 10.00
Parkside 18 Gramercy Park South.	2.00*-2.50* 2.50- 3.00		5.00- 6.00	
Pennsylvania Seventh Ave. and 33d St.	4.00- 5.00	6.00- 7.00	7.00- 9.00	10.00- 13.00
Piccadilly 227 W. 45th St.	3.50- 6.00	5.50- 8.00	6.50- 9.00	10.00- 14.00
Plymouth 143 W. 49th St.	3.50- 6.00	5.50- 8.00	6.50- 9.00	10.00- 14.00
President 234 W. 48th St.	3.50- 6.00	5.50- 8.00	6.50- 9.00	10.00- 14.00
Prince George E. 28th St. between 5th and Madison	2.50- 4.00	4.00- 6.00	4.50- 7.00	7.00- 8.00
Ritz Tower Park Ave. and 57th St.	6.00- 8.00		8.00-14.00	12.00- 45.00
Roosevelt Madison Ave. at 45th St.	4.00- 7.00	6.00- 8.00	7.00-10.00	12.00- 18.00
St. James 109 W. 45th St.	2.50- 3.00	4.00- 5.00	5.00- 6.00	8.00- 10.00
Seymour 50 W. 45th St.	4.00		6.00	8.00- 14.00
Shelton Lexington Ave. and 49th St.	3.00- 4.00 2.25*		5.00	7.00
Taft Seventh Ave. and 50th St.	3.50	5.00	6.00	
Times Square Eighth Ave. and 43d St. (Connecting bath, $2.50 single)	3.00	4.00 5.00	5.00- 6.00	
Tudor 304 E. 42d St.	3.00	5.00	6.00	8.00
Vanderbilt Park Ave. and 34th St.	4.00- 6.00	6.00- 8.00	6.00- 9.00	8.00- 10.00
Waldorf-Astoria Park Ave. and 50th St. (Air conditioned rooms)	6.00- 8.00 8.00-10.00		9.00-11.00 11.00-15.00	15.00- 22.00 20.00- 33.00
Warwick 65 W. 54th St.	4.50- 6.00		7.00- 8.00	8.00- 18.00
Wellington Seventh Ave. and 55th St.	3.00- 3.50	4.00- 4.50	5.00	

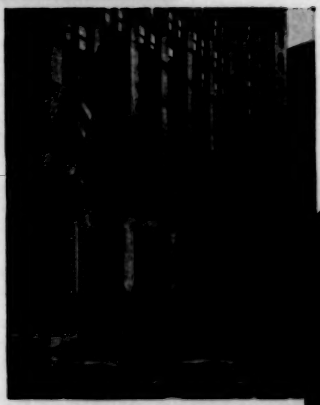
* All rates are for rooms with bath unless asterisked.

Some New York Hotels



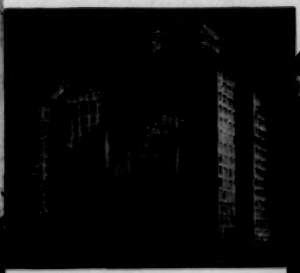
THE BILTMORE

THE COMMODORE



ABOVE AND TO THE RIGHT, THE WALDORF-ASTORIA

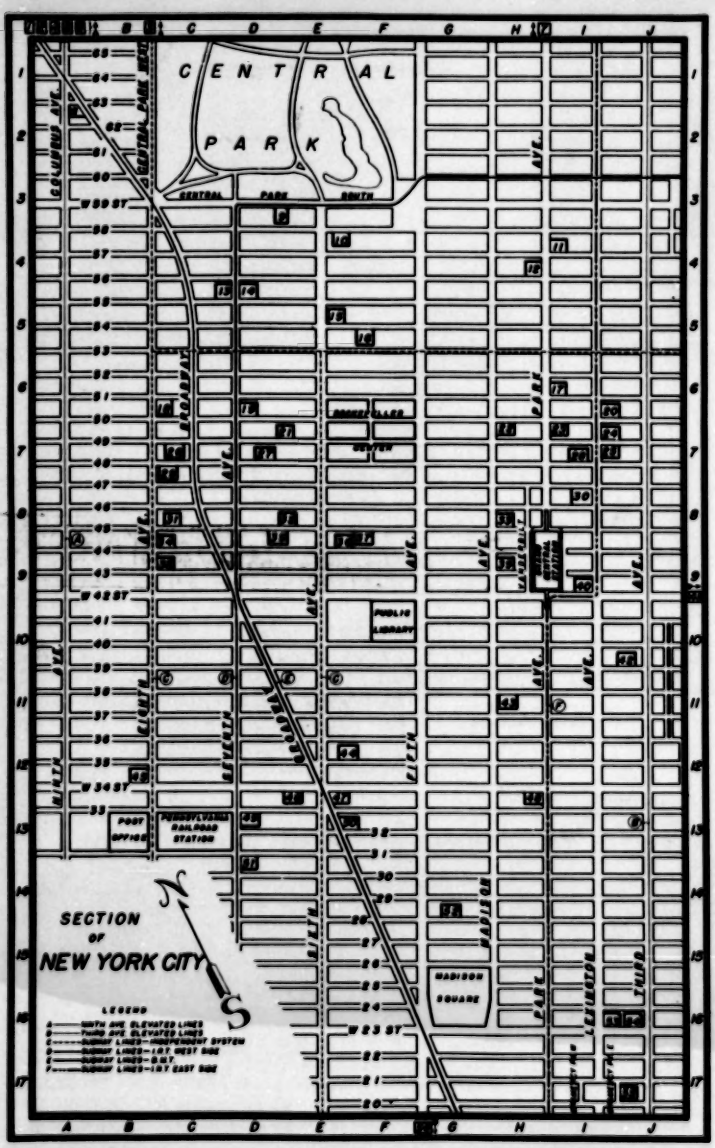
THE PENNSYLVANIA



THE BELMONT-PLAZA

THE ROOSEVELT

114
40



KEY TO MAP

3. Alden B-1
36. Algonquin F-8
42. Allerton House...J-10
17. Ambassador I-6
28. Barclay I-17
24. Belmont-Plaza I-7
4. Berkley A-1
20. Beverly I-6
39. Biltmore H-9
27. Bristol D-7
18. Capitol C-6
6. Cardinal A-1
44. Collingwood F-12
40. Commodore I-9
7. Concourse Plaza..H-1
16. Dorset F-5
12. Drake H-4
8. Empire A-2
9. Essex House D-3
56. Fifth Avenue....G-17
26. Forrest C-7
53. George Washington I-16
51. Governor Clinton D-13
30. Grand Central Palace I-8
2. Greystone A-1
5. Hamilton A-1
46. Herald Square ..E-12
54. Kenmore Hall....J-16
35. Knickerbocker ...E-8
34. Lincoln C-8
1. Marcy A-1
50. Martinique F-13
47. McAlpin F-12
43. Midston House..H-11
22. New Weston.....H-7
45. New Yorker.....B-12
13. Park Central C-4
10. Park Chambers...F-4
55. Parkside J-17
49. Pennsylvania ...D-13
31. Piccadilly C-8
21. Plymouth E-7
29. President C-7
52. Prince George...G-14
11. Ritz Tower.....I-4
33. Roosevelt H-8
32. St. James E-8
37. Seymour F-8
25. Shelton I-7
19. Taft D-6
38. Times Square C-9
41. Tudor J-9
48. Vanderbilt H-12
23. Waldorf-Astoria ..I-7
15. Warwick F-5
14. Wellington D-4

MEETING PLACES

HOUSE OF DELEGATES: Basildon and Jade Rooms of The Waldorf-Astoria, Park Avenue and 50th Street.

OPENING GENERAL MEETING: Grand Ballroom of The Waldorf-Astoria, Park Avenue and 50th Street.

GENERAL SCIENTIFIC MEETINGS: Grand Ballroom of The Waldorf-Astoria, Park Avenue and 50th Street, and Grand Ballroom of The Commodore, Lexington Avenue and 42d Street.

GENERAL HEADQUARTERS, SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, TECHNICAL EXHIBITS, INFORMATION BUREAU AND BRANCH POSTOFFICE: Grand Central Palace, Lexington Avenue between 46th and 47th streets.

SECTIONS OF SCIENTIFIC ASSEMBLY

PRACTICE OF MEDICINE: Grand Ballroom of The Waldorf-Astoria, Park Avenue and 50th Street.

SURGERY, GENERAL AND ABDOMINAL: Grand Ballroom of The Commodore, Lexington Avenue and 42d Street.

OBSTETRICS AND GYNECOLOGY: Grand Ballroom of The Commodore, Lexington Avenue and 42d Street.

OPHTHALMOLOGY: Grand Ballroom of The Roosevelt, Madison Avenue at 45th Street.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Grand Ballroom of The Roosevelt, Madison Avenue at 45th Street.

PEDIATRICS: Grand Ballroom of The Waldorf-Astoria, Park Avenue and 50th Street.

PHARMACOLOGY AND THERAPEUTICS: Music Room of The Biltmore, Madison Avenue and 43d Street.

PATHOLOGY AND PHYSIOLOGY: Music Room of The Biltmore, Madison Avenue and 43d Street.

NERVOUS AND MENTAL DISEASES: Ballroom of The Biltmore, Madison Avenue and 43d Street.

DERMATOLOGY AND SYPHILOLOGY: West Ballroom of The Commodore, Lexington Avenue and 42d Street.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Hendrik Hudson Room of The Roosevelt, Madison Avenue at 45th Street.

UROLOGY: West Ballroom of The Commodore, Lexington Avenue and 42d Street.

ORTHOPEDIC SURGERY: Ballroom of The Biltmore, Madison Avenue and 43d Street.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Hendrik Hudson Room of The Roosevelt, Madison Avenue at 45th Street.

RADIOLOGY: East Ballroom of The Commodore, Lexington Avenue and 42d Street.

MISCELLANEOUS TOPICS, SESSION ON ANESTHESIA: East Ballroom of The Commodore, Lexington Avenue and 42d Street.

GENERAL SCIENTIFIC MEETINGS

MONDAY, JUNE 10—2 P. M.

GRAND BALLROOM OF THE WALDORF-ASTORIA

PROGRAM BY NEW YORK PHYSICIANS

Further Cine-Roentgenographic Studies of the Pulmonary Circulation, the Cardiac Chambers and the Large Blood Vessels (Motion Picture Demonstration).
W. H. STEWART, C. W. BREIMER and H. C. MAIER.

Criteria Determining Surgical Therapy in Splenopathies.
ALLEN O. WHIPPLE.

The Drama of Tuberculosis. JAMES ALEXANDER MILLER.

A Consideration of Recent Developments in the Surgical Management of the Obstructing Prostate.
JOSEPH F. McCARTHY.

Therapeutic Conference: Digitalis in Heart Failure.
WALTER L. NILES, McKEEN CATTELL, HARRY GOLD and EUGENE F. DU BOIS.

TUESDAY, JUNE 11—9 A. M.

GRAND BALLROOM OF THE WALDORF-ASTORIA

SYMPOSIUM ON CHEMOTHERAPY

Chemotherapy in Urology. EDWARD N. COOK, Rochester, Minn.

Use and Abuse of Chemotherapy in Obstetrics and Gynecology.
FRED L. ADAIR, H. CLOSE HESSELTINE and LUCILE HAC, Chicago.

Sulfanilamide in Surgical Infections: Its Possibilities and Limitations (Lantern Demonstration).
JOHN S. LOCKWOOD, Philadelphia.

The Use of Sulfanilamide and Related Compounds in Diseases of Infancy and Childhood. BENJAMIN W. CAREY, Detroit.

The Toxic Manifestations of Sulfanilamide and Its Derivatives with Reference to Their Importance in the Course of Therapy. PERRIN H. LONG, JAMES W. HAVILAND, LYDIA B. EDWARDS and ELEANOR A. BLISS, Baltimore.

TUESDAY, JUNE 11—2 P. M.

MEDICAL DIVISION: GRAND BALLROOM OF THE WALDORF-ASTORIA

Nutritional Diseases in the United States.
W. H. SEBRELL, Washington, D. C.

Newly Recognized Deficiency Diseases and Their Treatment (Lantern Demonstration). TOM D. SPIES, Cincinnati.

New Light on the Mechanisms by Which Emotion Causes Disease. WALTER C. ALVAREZ, Rochester, Minn.

The Diagnosis of Heart Failure (Lantern Demonstration).
TINSLEY R. HARRISON, Nashville, Tenn.

The Management of Patients with Heart Failure.
SAM A. LEVINE, Boston.

TUESDAY, JUNE 11—2 P. M.

SURGICAL DIVISION: GRAND BALLROOM OF THE COMMODORE

Management of Repeated or Habitual Abortion (Lantern Demonstration). E. D. PLASS, Iowa City.

Varicose Veins and Their Complications (Lantern Demonstration). GEZA DE TAKATS, Chicago.

The Problems Attending the High Mortality Rate in Appendicitis. ERWIN R. SCHMIDT, Madison, Wis.

The Results of Supradiaphragmatic Splanchnicectomy in the Treatment of Hypertension.
MAX M. PEET, Ann Arbor, Mich.

Gonorrhea in the Male: Results of Treatment with Sulfanilamide.
COMMITTEE FOR THE COOPERATIVE CLINICAL SURVEY OF THE TREATMENT OF GONORRHEA: P. S. PELOUZE, Chairman, Philadelphia; OSCAR F. COX, Boston; ROGERS DEAKIN, St. Louis; ANSON L. CLARK, Oklahoma City; ROGER W. BARNES, Los Angeles, and R. A. VONDERLEHR and LIDA J. USILTON, Washington, D. C.

SYMPOSIUM ON HEALTH PROBLEMS IN EDUCATION

A fourth Symposium on Health Problems in Education, under the sponsorship of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, together with the Section on Ophthalmology, the Section on Laryngology, Otology and Rhinology, the Section on Pediatrics and the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association, will be held in the Grand Ballroom of The Roosevelt, June 11, at 2 p. m. The following program will be presented:

Symposium on What Shall We Teach?

I. H. Goldberger, New York, Presiding

The Bureau of Vital Statistics Reveals National Health Problems. H. L. Dunn, Washington, D. C.

The College Health Survey Reveals Certain Needs of the Lower Schools. Ruth E. Boynton, Minneapolis.

Relationships Between Health Examinations and Health Education. Charles C. Wilson, Hartford, Conn.

The Interests of Children versus Dicta of Experts as Bases for Health Instruction. Dorothy B. Nyswander, New York.

Discussion to be opened by William R. Kelly and Alice V. Keliher, New York; Dean F. Smiley, Ithaca, N.Y.; Harry E. Kleinschmidt, New York; George M. Lyon, Huntington, W. Va.; Ira V. Hiscock, New Haven, Conn., and Ruth Morris Bakwin, New York.

LOCAL COMMITTEE ON ARRANGEMENTS

Executive Committee

Charles Gordon Heyd, Chairman

Kirby Dwight, Treasurer

B. Wallace Hamilton, Secretary

Walter P. Anderton
Horace E. Ayers
George Baehr
Emily D. Barringer
Peter Irving
David J. Kaliski
Samuel J. Kopetzky
George W. Kosmak
Raymond P. Sullivan
Alice Stone Woolley
Irving S. Wright

Advisory Committee: Albert H. Aldridge, Reginald M. Atwater, John L. Bauer, Conrad Berens, W. T. Berry, Ernst P. Boas, Samuel B. Burk, Claude A. Burrett, H. A. Cochrane, Edward R. Cunniffe, Bernard S. Denzer, Vincenzo Fanoni, Alfred G. Forman, Malcolm Goodridge, Alfred M. Hellman, J. Stanley Kenney, Francis N. Kimball, Arthur M. Master, D. A. McAteer, T. A. McGoldrick, G. E. Milani, Peter M. Murray, E. H. Old, Robert Oleson, Howard A. Patterson, C. C. Pierce, Edward Charles Podvin, Maximilian A. Ramirez, Willard C. Rappleye, Terry M. Townsend, Frank W. Weed, William L. Wheeler Jr., Herbert B. Wilcox.

Subcommittees

Subcommittee on Sections and Section Work: Irving S. Wright, Chairman.

Practice of Medicine: Maximilian A. Ramirez, Chairman.

Surgery, General and Abdominal: Henry W. Cave, Chairman.

Obstetrics and Gynecology: Albert H. Aldridge, Chairman.

Ophthalmology: Conrad Berens, Chairman.

Laryngology, Otology and Rhinology: Westley M. Hunt, Chairman.

Pediatrics: Adolph G. DeSanctis, Chairman.

Pharmacology and Therapeutics: Charles C. Lieb, Chairman.

Pathology and Physiology: Ward J. MacNeal, Chairman.

Nervous and Mental Diseases: Charles A. McKendree, Chairman.

Dermatology and Syphilology: Howard Fox, Chairman.

Preventive and Industrial Medicine and Public Health: Haven Emerson, Chairman.

Urology: Clarence G. Bandler, Chairman.

Orthopedic Surgery: Arthur Krida, Chairman.

Gastro-Enterology and Proctology: Burrill B. Crohn, Chairman.

Radiology: Henry K. Taylor, Chairman.

Subcommittee on Registration and Hotels: Peter Irving, Chairman.

Subcommittee on Scientific Exhibit: David J. Kaliski, Chairman.

Subcommittee on Publicity: Samuel J. Kopetzky, Chairman.

Subcommittee on Finance: George W. Kosmak, Chairman.

Subcommittee on Women Physicians: Madge C. L. McGuinness, Chairman.

Subcommittee on Hospitals and Clinics: A. Wilbur Duryee, Chairman.

CHARLES GORDON HEYD, M.D.,
Chairman of the Local Committee on Arrangements

Subcommittee on Transportation: John C. A. Gerster, Chairman.

Subcommittee on Entertainment: William Bayard Long, Chairman.

Opening General Meeting: Walter P. Anderton, Chairman.

Alumni and Fraternity Reunions: Norman E. Titus, Chairman.

Golf: James Craig Joyner, Chairman.

Distinguished Guests: Frederic E. Sondern, Chairman.

Women's Entertainment: Josephine H. Kenyon, Chairman.

Woman's Auxiliary: Mrs. Carlton Potter, Syracuse, N. Y., Chairman.

ENTERTAINMENT

Dinner for Delegates

A dinner and entertainment is being arranged for Monday, June 10, at the New York World's Fair for members of the House of Delegates and officers of the American Medical Association. Complete information concerning the dinner and entertainment will be available at the first meeting of the House of Delegates on Monday morning, June 10.

Luncheon for Delegates

A luncheon for the members of the House of Delegates and the officers of the American Medical Association is being planned for Tuesday noon, June 11, between the morning and afternoon sessions of the House of Delegates at The Waldorf-Astoria.

Opening General Meeting

The Opening General Meeting will be held on Tuesday evening, June 11, in the Grand Ballroom of The Waldorf-Astoria. The program will begin at 8 o'clock.

President's Reception and Ball

The President of the American Medical Association will be honored with a reception and ball to be held Thursday evening, June 13, at 9 o'clock in the Grand Ballroom of The Waldorf-Astoria.

Alumni Fraternity and Group Dinners and Luncheons

Notice has been received of the following alumni, fraternity and group dinners and luncheons to be held during the time of the session:

ALPHA KAPPA KAPPA FRATERNITY, Wednesday, June 12, Hotel Lexington

ALPHA OMEGA ALPHA, Thursday, June 13, 6:30 p. m., at The Waldorf-Astoria. Dr. Irvin Abell will present the William W. Root lecture. Adjourn promptly at 9 p. m. for President's Reception.

ALUMNI ASSOCIATION OF THE UNIVERSITY OF LOUISVILLE, Wednesday, June 12, 6:30 p. m., at the Shelton Hotel.

ALUMNI ASSOCIATION OF THE UNIVERSITY OF MINNESOTA MEDICAL SCHOOL.

ALUMNI ASSOCIATION OF THE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE.

ALUMNI OF ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE, Wednesday, June 12, 8 p. m., at Sherry's.

ASSOCIATED DIPLOMATES OF THE NATIONAL BOARD OF MEDICAL EXAMINERS, Wednesday, June 12, 12:30 p. m., at the Belmont-Plaza Hotel.

ASSOCIATED STATE POSTGRADUATE COMMITTEES, Wednesday, June 12, 12 noon.

ASSOCIATION OF ALUMNI OF COLLEGE OF PHYSICIANS AND SURGEONS OF COLUMBIA UNIVERSITY, Wednesday, June 12, 7 p. m., at Columbia University Club. Dr. W. C. Rappleye will speak. Tickets at $5 may be secured by writing Dr. J. A. Clinton Gray, 115 East 61st Street, New York.

HARVARD MEDICAL ALUMNI ASSOCIATION, Wednesday, June 12, 7:15 p. m., at the Harvard Club. The speakers will be James B. Conant, C. Sidney Burwell, Lincoln Davis and Cornelius P. Rhoads.

JEFFERSON MEDICAL COLLEGE ALUMNI ASSOCIATION, Wednesday, June 12, 7 p. m., at the Hotel Murray Hill. Tickets, $2.50 each. Request for reservations may be addressed to Dr. Thomas F. Duhigg, Hotel Murray Hill, Park Avenue at 41st Street, New York.

PHI CHI MEDICAL FRATERNITY, Thursday, June 13, 12:30 p. m., at the Shelton Hotel. Reservations may be secured at the Phi Chi Booth in the Grand Central Palace or by writing Dr. Abbott W. Allen, 117 East 72d Street, New York.

PHI DELTA EPSILON FRATERNITY, Wednesday evening, June 12, in the Sert Room of The Waldorf-Astoria. Reservations may be made by addressing Dr. Aaron Brown, 39 West 55th Street, New York.

RUSH MEDICAL COLLEGE, UNIVERSITY OF CHICAGO, ALUMNI, Wednesday, June 12, Astor Gallery of The Waldorf-Astoria; informal; $4 a plate; ladies invited. Drs. James B. Herrick, Ludwig Hektoen, George Washington Hall, E. E. Irons, Wilbur Post, George Dick, Morris Fishbein and others will speak on Rush Medical College—Old and New—and the University of Chicago. Reservations may be secured by writing Dr. Austin A. Hayden, 25 East Washington Street, Chicago, until June 5; after that date reservations should be addressed to Dr. Hayden at The Waldorf-Astoria, New York.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY, Wednesday, June 12, 12:30 p. m., in the Small Ballroom of The Roosevelt.

SECTION ON PEDIATRICS, Thursday evening, June 13, at The Waldorf-Astoria.

American Physicians' Art Association

The American Physicians' Art Association will hold its third annual exhibition jointly with the Thirteenth Annual Exhibition of the New York Physicians' Art Club, at the Belmont-Plaza Hotel, June 10 to 14. Original work in painting, sculpture, photography and artcraft will be exhibited and trophies will be awarded.

WOMAN'S AUXILIARY

The headquarters of the Woman's Auxiliary will be at the Hotel Pennsylvania. All physicians' wives, whether auxiliary members or not, and their guests are cordially invited to attend the general sessions and participate in social functions and all are asked to register at the registration desk on the Ballroom floor of the Hotel Pennsylvania where programs of daily events and literature will be distributed and tickets for various activities may be procured. Registration will begin Sunday, June 9, at 12 noon and will continue daily through Thursday, June 13, from 8:30 a. m. to 4 p. m.

New York's many attractions made it desirable to deviate from the customary sightseeing and to evolve a program permitting visitors freedom of choice. Members and guests will be furnished strips of tickets covering several excursions which, when presented either singly or in groups, will allow bearer group rates. These strip tickets may be used any time during the week and will include boat trips around Manhattan Island, motor tours, and visits to the Hayden Planetarium, Rockefeller Center, N. B. C. Studios and Empire State Observatories. Suggestions will be provided on application at headquarters. Monday will be the best day for sightseeing. All who attend the session are asked to make reservations and purchase tickets for all functions as soon as possible after arrival.

SUNDAY, JUNE 9

All meetings will begin precisely at the hour indicated, eastern daylight saving time.

12 m. to 4:00 p.m.	Registration: Foyer, Ball Room Floor.
4:00 p. m. to 7:00 p. m.	Auxiliary members and guests will be welcomed by the Hospitality Committee.
	Tea at Sherry's, 300 Park Avenue, in honor of Mrs. Rollo K. Packard, president. Members of the Board of Directors of the Woman's Auxiliary will be guests of the Local Committee on Arrangements.

MONDAY, JUNE 10

10:00 a. m.	Meeting of Board of Directors: Parlor 1.
Afternoon and Evening.	Sightseeing, using strip ticket.

TUESDAY, JUNE 11

9:00 a. m. Formal opening of the Convention of the Woman's Auxiliary to the American Medical Association: Grand Ballroom, Hotel Pennsylvania.

12:30 p. m. Luncheon, Hotel Pennsylvania, in honor of the past presidents of the Woman's Auxiliary to the American Medical Association.

Speakers: Dr. Rock Sleyster, President, American Medical Association, and Dr. Morris Fishbein, Editor, THE JOURNAL and HYGEIA. Auxiliary members and guests are invited to attend the luncheon. (Fee $1.75, including gratuities.)

ALPHONSE McMAHON, M.D.
St. Louis
Vice President of American Medical Association, 1939-1940

3:00 p. m. Conference for presidents and chairmen of committees of auxiliaries to state medical societies: Parlor 1.

8:00 p. m. The Opening General Meeting of the American Medical Association: Grand Ballroom, The Waldorf-Astoria. Auxiliary members and guests are invited to attend.

WEDNESDAY, JUNE 12

9:00 a. m. General Session of Woman's Auxiliary: Grand Ballroom, Hotel Pennsylvania.

1:00 p. m. Annual luncheon, Hotel Pennsylvania. Speakers: Dr. Nathan B. Van Etten, President-Elect of the American Medical Association, and Rev. Alphonse M. Schwitalla, Dean of the School of Medicine, St. Louis University. Auxiliary members and guests are invited to attend the luncheon. (Fee $1.75, including gratuities.)

Afternoon and Evening. Visit to World's Fair. Sightseeing or shopping.

6:00 p. m. Scenic Flights over New York City in modern flagships of American Airlines.

THURSDAY, JUNE 13

9:30 a. m. Post Convention Meeting of Executive Board of the Woman's Auxiliary: Parlor 1.

10:00 a. m. Meeting of Board of Directors of the Woman's Auxiliary: Parlor 1.

10:00 a. m. Scenic flights over New York City in modern airliners of United Airlines, Eastern Airlines and T. W. A. (subject to available equipment) and a "backstage" tour of New York's new municipal airport, followed by luncheon on the terrace overlooking the world's busiest Air Terminal.

Afternoon. Sightseeing, using strip tickets.

6:30 p. m. Annual dinner for members, husbands, guests, Hotel Pennsylvania. (Fee $3, including gratuities.) The dinner will terminate in time for all to attend the President's Reception and Ball given by the American Medical Association.

9:00 p. m. Reception and Ball in honor of the President of the American Medical Association: Grand Ballroom, The Waldorf-Astoria. Members of the Auxiliary and guests are invited to attend.

FRIDAY, JUNE 14

10:30 a. m. Scenic Flights.

Afternoon and Evening. Visit to World's Fair. Sightseeing or shopping.

JUNE 9-14, DAILY

9:30 a. m. to 5:00 p. m. Auxiliary Exhibits: Parlor 2, Hotel Pennsylvania.

AMERICAN MEDICAL WOMEN'S ASSOCIATION

The headquarters of the American Medical Women's Association will be at the Park Lane Hotel.

The following program has been arranged:

SUNDAY, JUNE 9

Morning. Registration. Meeting of Board of Directors.

12:30 p. m. Informal luncheon.

Evening. Buffet supper at home of Dr. E. D. Barringer, New Canaan, Conn.

MONDAY, JUNE 10

9:00 a. m. Registration.

9:30 a. m Annual business meeting.

12:30 p. m. Luncheon at Park Lane Hotel, the speakers to be announced.

2:30 p. m. Annual business meeting.

7:30 p. m. Banquet, with Dr. N. S. Noble presiding. The speakers will be Dr. Elizabeth Mason-Hohl, Los Angeles, and Dr. Alice Stone Woolley, Poughkeepsie, N. Y.

TUESDAY, JUNE 11

Meeting of the new Board of Directors.

SATURDAY, JUNE 15

World's Fair Day.

GOLF TOURNAMENT

The American Medical Golfing Association will hold its twenty-sixth annual tournament at Winged Foot Golf Club, Mamaroneck, Westchester County, N. Y., on Monday, June 10. Members may tee off from 7:30 a. m. to 2 p. m.

FIFTY TROPHIES AND PRIZES

Thirty-six holes of golf will be played in competition for the fifty trophies and prizes in the eight events. Trophies will be awarded for the Association Championship, thirty-six holes

THE WINGED-FOOT GOLF CLUB, MAMARONECK, N. Y., WHERE THE ANNUAL TOURNAMENT OF THE AMERICAN MEDICAL GOLFING ASSOCIATION WILL BE HELD JUNE 10. THE NATIONAL OPEN WAS PLAYED ON THIS COURSE IN 1929; THE WINNER WAS BOBBY JONES. THE NATIONAL AMATEUR CHAMPIONSHIP WILL BE HELD HERE IN SEPTEMBER, 1940

gross, the Will Walter Trophy; the Association Handicap Championship, thirty-six holes net, the Detroit Trophy; Championship Flight, First Gross, thirty-six holes, the St. Louis Trophy; Championship Flight, First Net, thirty-six holes, the President's Trophy; Eighteen Hole Championship, the Golden State Trophy; Eighteen Hole Handicap Championship, the Ben Thomas Trophy and the Atlantic City Trophy; Maturity Event, limited to Fellows over 60 years of age, the Minneapolis Trophy; and the Oldguard Championship, limited to competition of past presidents, the Wendell Phillips Trophy. Forty other prizes will be awarded for the various flights.

FELLOWS IN EVERY STATE OF THE UNION

Dr. George Washington Hall of Chicago is president, and Dr. D. H. Houston of Seattle and Dr. Grayson Carroll of St. Louis are vice presidents of the A. M. G. A., which was organized in 1915 by Drs. Will Walter, Wendell Phillips and Gene Lewis and now totals 1,565 members representing every state of the Union. The living past presidents include Drs. Thomas Hubbard of Toledo, Fred Bailey of St. Louis, Robert Moss of LaGrange, Texas, Charlton Wallace of New York, Will Walter of Evanston, Ill., James Eaves of Oakland, Calif., D. Chester Brown of Danbury, Conn., W. D. Sheldon of Rochester, Minn., Walter Schaller of San Francisco, Edwin Zabriskie of New York, Frank A. Kelly of Detroit, John Welsh Croskey of Philadelphia, Homer K. Nicoll of Chicago, Charles Lukens of Toledo, M. M. Cullom of Nashville, W. Albert Cook of Tulsa, Okla., Walt P. Conaway of Atlantic City and E. S. Edgerton of Wichita, Kan.

DR. JAMES CRAIG JOYNER HEADS NEW YORK GOLF COMMITTEE

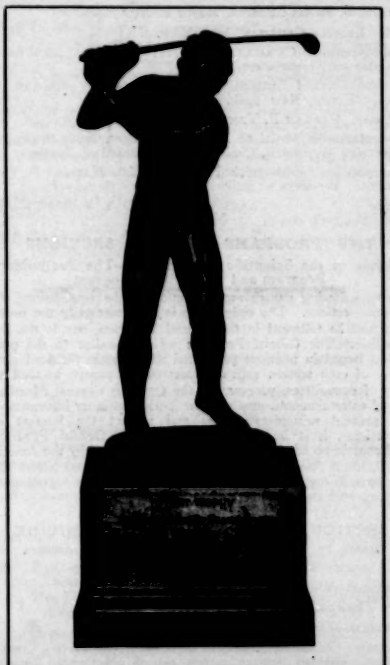
The New York Golf Committee is under the chairmanship of Dr. James Craig Joyner, 718 Park Avenue, New York City. He will be assisted by Drs. Edwin Zabriskie, Charlton Wallace, Orrin Sage Wightman and Asa Liggett Lincoln.

TWO EIGHTEEN HOLE CHAMPIONSHIP COURSES

The twenty-sixth tournament of the American Medical Golfing Association at Winged Foot promises to be a wonderful affair. The club is one of the most elaborate in the country, with a beautiful clubhouse and two sporty courses. The A. M. G. A. officers anticipate that some 250 to 300 medical golfers from all parts of the United States will play thirty-six holes in New York on June 10.

APPLICATION FOR MEMBERSHIP

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write Executive Secretary Bill Burns, 2020 Olds Tower, Lansing, Mich., for application blank. Participants in the A. M. G. A. tournament are required to present their home club handicap, signed by the club secretary, at the first tee on the day of play. No handicap over 30 is allowed. Only active Fellows of the A. M. G. A. may compete for prizes. No trophy is awarded a Fellow who is absent from the annual dinner, which is always worth while waiting for!



The Detroit Trophy
Emblematic of The Association Handicap Championship
(Net Score 36 Holes)
It must be won thrice to be held.

Winners

1916—C. H. Nims, Hot Springs, Ark.
1917—Fred Bailey, St. Louis.
1918—J. J. Coons, Columbus.
1919—T. J. Motter, Oak Park, Ill.
1920—Fred Bailey, St. Louis.
1921—F. W. Wipperman, N. Or.
1922—R. C. Eaton, Chicago.
1923—John Burke, Washington, D. C.
1924—Clarke Brooks, Detroit.
1925—J. J. Coons, Columbus.
1926—Charles Lukens, Toledo.
1927—A. C. Smith, Wooster, O.
1928—Robert Hansen, Marshalltown, Ia.
1929—F. A. Wheaton, Bellingham, Wash.
1930—Robert Hansen, Marshalltown, Iowa.
1931—S. L. Baysinger, Rolla, Mo.
1932—A. C. Smith, Wooster, O.
1933—W. A. Ryan, Milwaukee.
1934—R. W. McKelvey, Los Angeles.
1935—W. H. Taylor, Irwin, Pa.
1936—W. C. Scheidt, Celina, Ohio.
1937—Paul H. Shiffer, Stroudsburg, Pa.
1938—Rutherford T. Johnstone, Los Angeles.
1939—L. M. Otis, Celina, Ohio.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

THE OPENING GENERAL MEETING

Grand Ballroom, The Waldorf-Astoria

Tuesday, June 11—8 p. m.

Music. Doctors' Orchestral Society of New York.

Introduction of the President, ROCK SLEYSTER. WALTER P. ANDERTON, President, Medical Society of the County of New York.

Call to Order by the President, ROCK SLEYSTER.

Invocation.

Welcome to New York:

HON. HERBERT H. LEHMAN, Governor of New York.

HON. F. H. LA GUARDIA. Mayor of New York.

Solo. LEOPOLD GLUSHAK, New York.

Announcements. CHARLES GORDON HEYD, Chairman, Local Committee on Arrangements.

Introduction and Installation of President-Elect, NATHAN B. VAN ETTEN, New York.

Address. NATHAN B. VAN ETTEN, President.

Presentation of Medal to Retiring President, ROCK SLEYSTER. ARTHUR W. BOOTH, Chairman of the Board of Trustees.

Presentation of Distinguished Service Medal. NATHAN B. VAN ETTEN, President.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program, nor is the list complete. The Official Program will be similar to the programs issued in previous years and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Opening General Meeting, list of entertainments, map of New York, and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN GRAND BALLROOM OF THE WALDORF-ASTORIA

OFFICERS OF SECTION

Chairman—WILLIAM S. MCCANN, Rochester, N. Y.

Vice Chairman—WILLIAM B. PORTER, Richmond, Va.

Secretary—FRED M. SMITH, Iowa City.

Executive Committee—FRANCIS G. BLAKE, New Haven, Conn.; N. C. GILBERT, Chicago; WILLIAM S. MCCANN, Rochester, N. Y.

Wednesday, June 12—2 p. m.

The Use of Histamine in the Treatment of Specific Types of Headaches (Lantern and Motion Picture Demonstration). BAYARD T. HORTON, Rochester, Minn.

Discussion to be opened by EMANUEL LIBMAN, New York, and LEONARD G. ROWNTREE, Philadelphia.

The Relation of Control of Diabetes Mellitus to the Healing of Clean and Infected Wounds and to the Incidence of Infection in Clean Wounds (Lantern Demonstration). JAMES A. GREENE, L. W. SWANSON and CARL A. JACOBS, Iowa City.

Discussion to be opened by ELLIOTT P. JOSLIN, Boston, and ROY D. MCCLURE, Detroit.

The Frank Billings Lecture (Lantern Demonstration). ELLIOTT P. JOSLIN, Boston.

Aspiration Bronchopneumonia with Special Reference to Aspiration of Stomach Contents (Lantern Demonstration). ERNEST E. IRONS and CARL W. APFELBACH, Chicago.

Discussion to be opened by J. P. SIMONDS, Chicago.

SYMPOSIUM ON PULMONARY TUBERCULOSIS

Epidemiology of Pulmonary Tuberculosis (Lantern Demonstration). J. ARTHUR MYERS, Minneapolis.

Diagnosis of Pulmonary Tuberculosis (Lantern Demonstration). HUGH M. KINGHORN, Saranac Lake, N. Y.

Treatment of Pulmonary Tuberculosis. RALPH C. MATSON, Portland, Ore.

Discussion to be opened by H. S. DIEHL, Minneapolis; LOUIS HAMMAN, Baltimore, and ALEXIUS M. FORSTER, Colorado Springs, Colo.

Thursday, June 13—2 p. m.

Election of Officers

Leukopenia: A Discussion of Its Various Modes of Production (Lantern Demonstration). JOHN S. LAWRENCE, Rochester, N. Y.

Discussion to be opened by GEORGE R. MINOT, Boston, and RUSSELL L. HADEN, Cleveland.

Chairman's Address. WILLIAM S. MCCANN, Rochester, N. Y.

The Clinical Syndrome Associated with Intercapillary Glomerulosclerosis (Lantern Demonstration). HARRY WALKER and WILLIAM B. PORTER, Richmond, Va.

Discussion to be opened by SOMA WEISS, Boston, and PAUL KIMMELSTIEL, Richmond, Va.

The Relation of the Use of Tobacco to Coronary Disease (Lantern Demonstration). FREDRICK A. WILLIUS and J. P. ENGLISH, Rochester, Minn.

Discussion to be opened by FRANCIS D. MURPHY, Milwaukee, and GEORGE R. HERRMANN, Galveston, Texas.

The Effect of Distention of Abdominal Viscera on the Coronary Blood Flow and on Angina Pectoris (Lantern Demonstration). N. C. GILBERT and G. V. LEROY, Chicago.

Discussion to be opened by LESTER M. MORRISON, Philadelphia, and C. W. GREENE, Stanford University, Calif.

Clinical and Pathologic Studies in Coronary Artery Disease (Lantern Demonstration). HERRMAN L. BLUMGART, MONROE J. SCHLESINGER and PAUL M. ZOLL, Boston.

Discussion to be opened by FRED M. SMITH, Iowa City, and WILLIAM D. STROUD, Philadelphia.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON PHARMACOLOGY AND THERAPEUTICS IN BALLROOM OF THE BILTMORE

The Effects of Intravenous Solutions on Patients With and Without Cardiovascular Defects (Lantern Demonstration). FRANCIS D. MURPHY, Milwaukee; HOWARD L. CORRELL, Wauwatosa, Wis., and JOHN C. GRILL, Milwaukee.

Discussion to be opened by N. C. GILBERT, Chicago, and IRVINE H. PAGE, Indianapolis.

The Antipressor Action of Renal Extracts (Lantern Demonstration). ARTHUR GROLLMAN, Baltimore, and J. R. WILLIAMS JR. and T. R. HARRISON, Nashville, Tenn.

Discussion to be opened by J. MURRAY STEELE, New York; M. C. WINTERNITZ, New Haven, Conn., and EDGAR V. ALLEN, Rochester, Minn.

Treatment of Tetanus (Lantern Demonstration). HYMAN I. VENER and ALBERT G. BOWER, Los Angeles.

Discussion to be opened by WILLARD J. STONE, Pasadena, Calif., and RICHARD H. MILLER, Boston.

Long-Term Results in the Treatment of Early Syphilis (Lantern Demonstration). PAUL PADGET, Baltimore.

Discussion to be opened by JOSEPH EARLE MOORE, Baltimore, and R. A. VONDERLEHR, Washington, D. C.

Concerning the Mode of Action of Sulfanilamide (Lantern Demonstration). PHILIP A. SHAFFER, St. Louis.

The Treatment of Septicemia: Results Before and Since the Advent of Sulfamido Compounds (Lantern Demonstration).
WALLACE E. HERRELL and ALEX E. BROWN, Rochester, Minn.
Discussion on papers of DR. SHAFFER and DRS. HERRELL and BROWN to be opened by PERRIN H. LONG, Baltimore, and WALLACE M. YATER, Washington, D. C.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN GRAND BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—THOMAS M. JOYCE, Portland, Ore.
Vice Chairman—W. BARCLAY PARSONS, New York.
Secretary—ARTHUR W. ALLEN, Boston.
Executive Committee—HUGH H. TROUT, Roanoke, Va.; HENRY W. CAVE, New York; THOMAS M. JOYCE, Portland, Ore.

Wednesday, June 12—9 a. m.

Treatment of Acute Appendicitis and Its Complications in Children (Lantern Demonstration).
EDWIN M. MILLER and E. H. FELL, Chicago, and CLAYTON E. BROCK, St. Louis.

An Analysis of the Mortality Resulting from Acute Appendicitis (Lantern Demonstration).
EDWARD S. STAFFORD and DAVID H. SPRONG JR., Baltimore.

The Treatment of Appendical Peritonitis (Lantern Demonstration). D. WOOLFOLK BARROW, Lexington, Ky.
Discussion to be opened by ALTON OCHSNER, New Orleans; E. H. FELL, Chicago, and ARTHUR M. SHIPLEY, Baltimore.

Vitamins in Relationship to Surgical Patients (Lantern Demonstration). CHARLES C. LUND, Boston.

Plasma Vitamin C and Serum Protein Levels in Wound Disruption (Lantern Demonstration).
JOHN B. HARTZELL, JAMES M. WINFIELD and J. LOGAN IRVIN, Detroit.
Discussion to be opened by THOMAS T. MACKIE, New York.

Perforating Gunshot Wounds of the Abdomen (Lantern Demonstration). ELKIN L. RIPPY, Nashville, Tenn.

Subcutaneous Injuries of the Abdomen (Lantern Demonstration).
HAROLD PRICE TOTTEN and J. NORMAN O'NEILL, Los Angeles.
Discussion to be opened by ADOLPH A. WALKLING and WALTER E. LEE, Philadelphia, and THOMAS M. JOYCE, Portland, Ore.

Thursday, June 13—9 a. m.

Election of Officers

Hypertension Associated with Unilateral Kidney Infection (Lantern Demonstration).
REED M. NESBIT and RIGDON K. RATLIFF, Ann Arbor, Mich.

Morsus Humanis (Human Bite) (Lantern Demonstration).
FRANK K. BOLAND, Atlanta, Ga.
Discussion to be opened by MICHAEL L. MASON, Chicago, and FRANK L. MELENEY, New York.

Chairman's Address: Combination of Old and New Methods in Repair of Inguinal Hernia (Motion Picture Demonstration). THOMAS M. JOYCE, Portland, Ore.

Syphilis of the Stomach (Lantern Demonstration).
CARRINGTON WILLIAMS and PAUL KIMMELSTIEL, Richmond, Va.
Discussion to be opened by KARL A. MEYER, Chicago.

Carcinoma of the Stomach (Lantern Demonstration).
HOWARD K. GRAY, Rochester, Minn.

Jejunoplasty for Obstruction Following Gastro-Enterostomy or Subtotal Gastric Resection (Lantern Demonstration).
CARL L. HOAG and JOHN B. DEC. M. SAUNDERS, San Francisco.
Discussion to be opened by J. M. T. FINNEY, Baltimore, and HAROLD BRUNN, San Francisco.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON ORTHOPEDIC SURGERY

Automobile Accidents in a Rural Area Traversed by a Transcontinental Highway (Lantern Demonstration).
JOHN H. POWERS, Cooperstown, N. Y.
Discussion to be opened by PHILIP D. WILSON, New York.

Fracture of the Ulna with Dislocation of the Head of the Radius (Monteggia Fracture) (Lantern Demonstration).
JAMES S. SPEED and HAROLD B. BOYD, Memphis, Tenn.
Discussion to be opened by HERMAN F. JOHNSON, Omaha, and BENJAMIN FRANKLIN BUZBY, Camden, N. J.

Head Injuries (Lantern Demonstration).
HAROLD C. VOSBURGH, ADRIEN VERBRUGGHEN and JERRY J. KEARNS, Chicago.
Discussion to be opened by S. BERNARD WORTIS, New York, and DONALD MUNRO, Boston.

Indications and Technic for Operative Treatment of the External Tibial Condyle (Bumper Fracture) (Lantern Demonstration). JOSEPH S. BARR, Boston.
Discussion to be opened by CARL E. BADGLEY, Ann Arbor, Mich.; EARL D. MCBRIDE, Oklahoma City, and HAROLD R. CONN, Akron, Ohio.

The Treatment of Compound Fractures.
HARRY C. BLAIR, Portland, Ore.

Complicated Pott's Fractures Requiring Open Reduction (Lantern Demonstration).
RUFUS H. ALLDREDGE, New Orleans.
Discussion to be opened by PHILIP D. WILSON, New York; FRANK D. DICKSON, Kansas City, Mo., and GEORGE O. EATON, Baltimore.

SECTION ON OBSTETRICS AND GYNECOLOGY

MEETS IN GRAND BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—LUDWIG A. EMGE, San Francisco.
Vice Chairman—BUFORD G. HAMILTON, Kansas City, Mo.
Secretary—NORMAN F. MILLER, Ann Arbor, Mich.
Executive Committee—E. D. PLASS, Iowa City; HARVEY B. MATTHEWS, Brooklyn; LUDWIG A. EMGE, San Francisco.

Wednesday, June 12—2 p. m.

Veratrum Viride in the Treatment of Eclampsia: II (Lantern Demonstration).
RICHARD D. BRYANT and JOHN GWYN FLEMING, Cincinnati.
Discussion to be opened by HENRY LYNDE WOODWARD, Cincinnati.

SYMPOSIUM ON POSTPITUITARY PREPARATIONS IN OBSTETRICS

(All papers in the symposium will be given before there is any discussion)

Uterine Response to Posterior Pituitary at Term: Physiologic Considerations (Lantern Demonstration).
SAMUEL R. M. REYNOLDS, Brooklyn, and DOUGLAS POWER MURPHY, Philadelphia.
Discussion to be opened by RICHARD TORPIN, Augusta, Ga., and SPRAGUE H. GARDINER, Baltimore.

Should Solution of Posterior Pituitary Be Used in the First and Second Stages of Labor?
JOHN A. SHARKEY, Philadelphia.
Discussion to be opened by ALBERT B. DAVIS, Camden, N. J.

The Abuse of Solution of Posterior Pituitary During Labor (Lantern Demonstration).
GEORGE F. PENDLETON, Kansas City, Mo.
Discussion to be opened by JAMES K. QUIGLEY, Rochester, N. Y.

Solution of Posterior Pituitary in Modern Obstetric Practice. Joseph B. DeLee, Chicago.

Discussion to be opened by E. D. Plass, Iowa City, and E. L. King, New Orleans.

Thursday, June 13—2 p. m.

Election of Officers

The Obstetric Forceps (Motion Picture Demonstration). Carl Henry Davis, Wilmington, Del.

Discussion to be opened by S. A. Cosgrove, Jersey City, N. J.

Pelvic Pain of Urinary Tract Origin (Lantern Demonstration). Preston T. Brown and John W. Pennington, Phoenix, Ariz.

Discussion to be opened by Guy L. Hunner, Baltimore.

The Obstetric History of 175 Cases of Spastic Cerebral Paralysis (Lantern Demonstration). Gerald W. Gustafson and George J. Garceau, Indianapolis.

Discussion to be opened by Ward F. Seeley, Detroit, and Thaddeus L. Montgomery, Philadelphia.

The Role of Deep Cauterization in the Prevention of Cancer of the Cervix: A Report of 10,000 Cases (Lantern Demonstration). B. Z. Cashman, Pittsburgh.

Discussion to be opened by Frederick C. Holden, New York, and L. M. Randall, Rochester, Minn.

Radiation in the Treatment of Carcinoma in the Body of the Uterus (Lantern Demonstration). A. N. Arneson, St. Louis, and Harry Hauptman, Jersey City, N. J.

Discussion to be opened by William P. Healy, New York.

Chairman's Address: Present Trends of Socialization of Medicine in Relation to Maternal Welfare. Ludwig A. Emge, San Francisco.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON PEDIATRICS IN GRAND BALLROOM OF THE WALDORF-ASTORIA

Prediction and Prevention of Pregnancy Accidents in Diabetes (Lantern Demonstration). Priscilla White, Boston.

The Neonatal Problem in Infants of Diabetic Mothers (Lantern Demonstration). Warren R. Sisson, Boston.

A Study of Fetal and Neonatal Deaths: A Statistical Review. Edith L. Potter, Chicago.

The Care of the Premature Infant (Lantern Demonstration). Ethel C. Dunham and Jessie M. Bierman, Washington, D. C.

The Responsibilities of the Newborn Service from the Standpoint of the Pediatrician. Julius H. Hess, Chicago.

Vitamin K in the Prevention and Treatment of Prothrombin Deficiency and Associated Hemorrhage in the Newborn (Lantern Demonstration). W. W. Waddell Jr., Charlottesville, Va.

SECTION ON OPHTHALMOLOGY

MEETS IN GRAND BALLROOM OF THE ROOSEVELT

OFFICERS OF SECTION

Chairman—Harry S. Gradle, Chicago.

Vice Chairman—Everett L. Goar, Houston, Texas.

Secretary—Derrick Vail, Cincinnati.

Executive Committee—Parker Heath, Detroit; S. Judd Beach, Portland, Maine; Harry S. Gradle, Chicago.

Wednesday, June 12—9 a. m.

Chairman's Address. Harry S. Gradle, Chicago.

Unilateral Exophthalmos (Lantern Demonstration). Edward C. Ellett, Memphis, Tenn.

Tubercle Within Central Retinal Vein. Hemorrhagic Glaucoma; Periphlebitis Retinalis in Other Eye (Lantern Demonstration). Frederick H. Verhoeff, Boston, and G. Victor Simpson, Washington, D. C.

Discussion to be opened by E. V. L. Brown, Chicago, and Jonas S. Friedenwald, Baltimore.

Sclerocorneal Trephining (Elliot's Operation) (Motion Picture Demonstration). William L. Benedict, Rochester, Minn.

Discussion to be opened by Algernon B. Reese, New York, and F. Bruce Fralick, Ann Arbor, Mich.

Unusual Changes in the Retinal Veins in Diabetes Mellitus (Lantern Demonstration). Cecil S. O'Brien and James H. Allen, Iowa City.

Discussion to be opened by Parker Heath, Detroit, and Edward R. Thomas, Dayton, Ohio.

Operations for Detachment of the Retina with Special Reference to the Use of the Thermophore. H. Maxwell Langdon, Philadelphia.

Discussion to be opened by Luther C. Peter, Philadelphia, and John H. Dunnington, New York.

Thursday, June 13—9 a. m.

Executive Session

Election of Officers

The Effect of Sensitivity and Immunity on the Experimental Lesions of Ocular Tuberculosis (Lantern Demonstration). Alan C. Woods, Baltimore.

Discussion to be opened by Edwin W. Burton, Charlottesville, Va., and Merrill J. King, Boston.

Intracellular Bodies of the Conjunctival Epithelial Cells (Lantern Demonstration). Alson E. Braley, Detroit.

Discussion to be opened by Phillips Thygeson, New York.

Massachusetts Vision Test: An Improved Method of School Eye Testing. Albert E. Sloane, Boston.

Discussion to be opened by S. Judd Beach, Portland, Maine, and Maynard C. Wheeler, New York.

Demonstration Session

A Cardinal Anglometer. A Clinical Photo-Adaptometer. Emanuel Krimsky, Brooklyn.

An Apparatus for Localizing Intra-Ocular Foreign Bodies (Lantern Demonstration). Dikran M. Yazujian, Trenton, N. J.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON NERVOUS AND MENTAL DISEASES

Results Following the Intracranial Approach for Orbital Tumors (Lantern Demonstration). Walter E. Dandy, Baltimore.

Discussion to be opened by Arnold Knapp, New York.

Sparing and Nonsparing of "Macular" Vision Associated with Occipital Lobectomy in Man (Lantern Demonstration). Ward C. Halstead and A. Earl Walker, Chicago.

Discussion to be opened by Wilder G. Penfield, Montreal, Canada, and P. J. Leinfelder, Iowa City.

Comparison of Differential Diagnosis of Brain Lesions by Visual Fields, Encephalography and Ventriculography (Lantern Demonstration). Albert D. Ruedemann, Cleveland.

Discussion to be opened by John N. Evans, Brooklyn.

Primary Pituitary Adenomas and the Syndrome of the Cavernous Sinus (Lantern Demonstration). Francis H. Adler, Philadelphia.

Discussion to be opened by William J. German Jr., New Haven, Conn.

Prechiasmal Syndrome Produced by Chronic Local Arachnoiditis (Lantern Demonstration). W. Ivan Lillie, Philadelphia.

Discussion to be opened by Temple S. Fay, Philadelphia.

The Myopathy and Etiology of Exophthalmos Experimentally Produced by Extracts of the Anterior Pituitary. Robert B. Aird and Howard C. Naffziger, San Francisco.

Discussion to be opened by David Marine, New York, and Harry B. Friedgood, Boston.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN GRAND BALLROOM OF THE ROOSEVELT

OFFICERS OF SECTION

Chairman—ARTHUR W. PROETZ, St. Louis.
Vice Chairman—F. T. HILL, Waterville, Maine.
Secretary—LEROY A. SCHALL, Boston.
Executive Committee—GORDON B. NEW, Rochester, Minn.; H. MARSHALL TAYLOR, Jacksonville, Fla.; ARTHUR W. PROETZ, St. Louis.

Wednesday, June 12—2 p. m.

Ethmosphenoidal Epiglottidean Syndrome Interfering with Voice Dynamics (Lantern Demonstration).
LEON FELDERMAN, Philadelphia.
Discussion to be opened by ROBERT F. RIDPATH, Philadelphia, and JAMES S. GREENE, New York.

Geographic Virulence of Mastoiditis.
MERCER G. LYNCH, New Orleans.
Discussion to be opened by NOAH D. FABRICANT, Chicago, and LESTER A. BROWN, Atlanta, Ga.

Diagnostic Pitfalls in the Nasopharynx (Lantern Demonstration). FREDERICK T. HILL, Waterville, Maine.

Fibromas of the Nasopharynx (Lantern Demonstration).
F. A. FIGI, Rochester, Minn.
Discussion on papers of Drs. HILL and FIGI to be opened by J. D. KELLY and C. J. IMPERATORI, New York, and GORDON B. NEW, Rochester, Minn.

Industrial Aspects of Ear, Nose and Throat Practice.
HAROLD A. FLETCHER, San Francisco.
Discussion to be opened by W. E. GROVE, Milwaukee, and H. A. KUHN, Hammond, Ind.

Osteoma of the Mastoid Process (Lantern Demonstration).
W. LIKELY SIMPSON, Memphis, Tenn.
Discussion to be opened by H. MARSHALL TAYLOR, Jacksonville, Fla., and GEORGE M. COATES, Philadelphia.

Thursday, June 13—2 p. m.

Election of Officers

Chairman's Address: The Functional Point of View in Rhinology. ARTHUR W. PROETZ, St. Louis.

FORUM:

The Treatment of Acute and Chronic Sinus Disease.
J. MACKENZIE BROWN, Los Angeles.

The Treatment of Acute and Chronic Otitis Media (Lantern Demonstration).
HAROLD I. LILLIE, Rochester, Minn.

The Treatment of Laryngotracheal Infections (Lantern Demonstration). LYMAN G. RICHARDS, Boston.
Discussion on papers of Drs. BROWN, LILLIE and RICHARDS to be opened by DEAN M. LIERLE, Iowa City; GEORGE E. SHAMBAUGH Jr., Chicago; C. STEWART NASH, Rochester, N. Y.; MERVIN C. MYERSON, New York; WALTER HUGHSON, Philadelphia; RALPH A. FENTON, Portland, Ore., and CHARLES T. PORTER, Boston.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON RADIOLOGY, EAST BALLROOM OF THE COMMODORE

Osteomyelitis of the Frontal Bone (Lantern and Motion Picture Demonstration). HARRIS P. MOSHER, Boston.

Radiologic Aspects of Osteomyelitis of the Frontal Bone (Lantern Demonstration). A. S. MACMILLAN, Boston.
Discussion on papers of Drs. MOSHER and MACMILLAN to be opened by CORNELIUS G. DYKE, New York; ARTHUR C. JONES, Boise, Idaho; JOSEPH E. J. KING, New York, and SAUMEL R. SKILLERN Jr., Philadelphia.

The Complications of Mastoid Surgery (Lantern Demonstration). GORDON F. HARKNESS, Davenport, Iowa.

Roentgen Signs of Mastoiditis and Its Complications (Lantern Demonstration).
VINCENT C. JOHNSON, Ann Arbor, Mich.
Discussion on papers of Drs. HARKNESS and JOHNSON to be opened by ERNEST M. SEYDELL, Wichita, Kan., and FREDERICK M. LAW and ISIDORE FRIESNER, New York.

Radiologic Treatment of Metastatic Cervical Lymph Nodes (Lantern Demonstration).
CHARLES L. MARTIN, Dallas, Texas.
Discussion to be opened by JAMES J. DUFFY and DOUGLAS QUICK, New York, and C. A. WHITCOMB, Philadelphia.

SECTION ON PEDIATRICS

MEETS IN GRAND BALLROOM OF THE WALDORF-ASTORIA

OFFICERS OF SECTION

Chairman—ALBERT D. KAISER, Rochester, N. Y.
Vice Chairman—PHILIP M. STIMSON, New York.
Secretary—HUGH L. DWYER, Kansas City, Mo.
Executive Committee—CLIFFORD SWEET, Oakland, Calif.; EDWARD CLAY MITCHELL, Memphis, Tenn.; ALBERT D. KAISER, Rochester, N. Y.

Wednesday, June 12—9 a. m.

The Role of Nutrition in the Production of Childhood Asthma (Lantern Demonstration).
F. M. POTTENGER Jr., Monrovia, Calif.
Discussion to be opened by W. AMBROSE McGEE, Richmond, Va.

Asthmatic Bronchitis Following Chronic Upper Respiratory Infection (Lantern Demonstration).
FRANK LEE BIVINGS, Atlanta, Ga.
Discussion to be opened by MASON IRA LOWANCE, Atlanta, Ga.

Child-Parent Relationships (Lantern Demonstration).
CLIFFORD D. SWEET, LAWRENCE R. JACOBUS and HENRY E. STAFFORD, Oakland, Calif.
Discussion to be opened by OSCAR REISS, Los Angeles, and HORTON R. CASPARIS, Nashville, Tenn.

Factors Which Affect the Level of Vitamin B_1 in the Blood of Infants and Children (Lantern Demonstration).
F. W. SCHLUTZ and ELIZABETH M. KNOTT, Chicago.

Scope of the Health Examination for Well Children (Talking Motion Picture Demonstration).
LEE FORREST HILL, Des Moines, Iowa.

Thursday, June 13—9 a. m.

Election of Officers

Chairman's Address: Significance of the Tonsils in the Development of the Child (Lantern Demonstration).
ALBERT D. KAISER, Rochester, N. Y.

PANEL DISCUSSION ON SOME CONTAGIOUS DISEASES
JOHN A. TOOMEY, Cleveland, Chairman

Measles Prevention (Lantern Demonstration).
CHARLES F. McKHANN, Boston.

Scarlet Fever: Active and Passive Immunity (Lantern Demonstration). GLADYS HENRY DICK, Chicago.

Nephritis in Scarlet Fever and Its Treatment.
CONRAD WESSELHOEFT, Boston.

Treatment of Epidemic Meningitis.
ARCHIBALD L. HOYNE, Chicago.

Active Immunity in Whooping Cough (Lantern Demonstration).
LOUIS W. SAUER, Evanston, Ill.

Epidemic Influenza: Diagnosis.
JOSEPH STOKES JR., Philadelphia.

Differential Diagnosis of Various Forms of Encephalitis (Lantern Demonstration). JOHN A. TOOMEY, Cleveland.

Convalescent Serums (Lantern Demonstration).
ERLING S. PLATOU, Minneapolis.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON OBSTETRICS AND GYNECOLOGY

Prediction and Prevention of Pregnancy Accidents in Diabetes (Lantern Demonstration). PRISCILLA WHITE, Boston.

The Neonatal Problem in Infants of Diabetic Mothers (Lantern Demonstration). WARREN R. SISSON, Boston.

A Study of Fetal and Neonatal Deaths: A Statistical Review.
EDITH L. POTTER, Chicago.

The Care of the Premature Infant (Lantern Demonstration).
ETHEL C. DUNHAM and JESSIE M. BIERMAN, Washington, D. C.

The Responsibilities of the Newborn Service from the Standpoint of the Pediatrician. JULIUS H. HESS, Chicago.

Vitamin K in the Prevention and Treatment of Prothrombin Deficiency and Associated Hemorrhage in the Newborn (Lantern Demonstration).
W. W. WADDELL JR., Charlottesville, Va.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN MUSIC ROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—IRVING S. WRIGHT, New York.
Vice Chairman—C. M. GRUBER, Philadelphia.
Secretary—EDGAR V. ALLEN, Rochester, Minn.
Executive Committee—RUSSELL L. HADEN, Cleveland; ERWIN E. NELSON, New Orleans; IRVING S. WRIGHT, New York.

Wednesday, June 12—9 a. m.

The Effect of Mersalyl (Salyrgan) on Plasma and Blood Volume (Lantern Demonstration).
VERNE W. SWIGERT, Evanston, Ill., and REGINALD FITZ, Boston.
Discussion to be opened by LEONARD G. ROWNTREE, Philadelphia, and MAURICE BRUGER, New York.

Clinical and Experimental Studies on Paraldehyde (Lantern Demonstration).
MEYER BODANSKY, J. L. JINKINS, H. LEVINE and A. J. GILBERT, Galveston, Texas.
Discussion to be opened by S. BERNARD WORTIS and NORMAN H. JOLLIFFE, New York.

A Review of the More Recent Field and Laboratory Studies in Chronic Selenium Poisoning (Lantern Demonstration).
M. I. SMITH, Washington, D. C.
Discussion to be opened by J. H. STERNER, Rochester, N. Y., and H. O. CALVERY, Washington, D. C.

Studies of the Principle in Liver Effective in Pernicious Anemia: VI. Recent Advances in the Purification of Active Substances (Lantern Demonstration).
BERNARD M. JACOBSON and Y. SUBBAROW, Boston.
Discussion to be opened by RANDOLPH WEST, New York, and GEORGE R. MINOT, Boston.

An Experimental and Clinical Evaluation of the Synthetic Estrogen Stilbestrol (Lantern Demonstration).
CHARLES MAZER, S. LEON ISRAEL and ELKIN RAVETZ, Philadelphia.
Discussion to be opened by THEODORE NEUSTAEDTER and RAPHAEL KURZROK, New York, and L. M. RANDALL, Rochester, Minn.

The Role of Chlorides in the Treatment of Alkalosis (Lantern Demonstration).
JOSEPH B. KIRSNER and WALTER L. PALMER, Chicago.
Discussion to be opened by DANA W. ATCHLEY, New York.

Thursday, June 13—9 a. m.

Election of Officers

Chairman's Address: Social Significance and Ultimate Objective of the Treatment of Arteriosclerosis Obliterans (Lantern Demonstration). IRVING S. WRIGHT, New York.

The Treatment of Angina Pectoris by Pancreatic Tissue Extract.
JAMES G. CARR, ALEXANDER SANDERS and GILBERT H. MARQUARDT, Chicago.
Discussion to be opened by A. WILBUR DURYEE, New York.

The Spontaneous Hypoglycemias: The Importance of Etiology in Determining Treatment (Lantern Demonstration).
JEROME W. CONN, Ann Arbor, Mich.
Discussion to be opened by HERBERT POLLACK, New York, and E. J. KEPLER, Rochester, Minn.

The Treatment of Orthostatic Hypotension and Orthostatic Tachycardia (Lantern Demonstration).
A. R. MACLEAN, Rochester, Minn.
Discussion to be opened by SOMA WEISS, Boston.

A Note of Optimism in the Treatment of the Patient with Chronic Leukemia (Lantern Demonstration).
WILLIAM P. MURPHY, Boston.
Discussion to be opened by PAUL REZNIKOFF and CLAUDE E. FORKNER, New York.

The Use of Aluminum Hydroxide in the Treatment of Peptic Ulcer (Lantern Demonstration).
E. N. COLLINS, Cleveland; C. P. PRITCHETT, Columbus, Ohio, and H. R. ROSSMILLER, Cleveland.
Discussion to be opened by JAMES FLEXNER, New York.

Sulfathiazole and Sulfapyridine Therapy in Pneumonia (Lantern Demonstration).
HARRISON F. FLIPPIN, LEON SCHWARTZ and JOHN G. REINHOLD, Philadelphia.
Discussion to be opened by HERBERT K. ENSWORTH, New York, and ELMER H. LOUGHLIN, Brooklyn.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON PRACTICE OF MEDICINE, BALLROOM OF THE BILTMORE

The Effects of Intravenous Solutions on Patients With and Without Cardiovascular Defects (Lantern Demonstration).
FRANCIS D. MURPHY, Milwaukee; HOWARD L. CORRELL, Wauwatosa, Wis., and JOHN C. GRILL, Milwaukee.
Discussion to be opened by N. C. GILBERT, Chicago, and IRVINE H. PAGE, Indianapolis.

The Antipressor Action of Renal Extracts (Lantern Demonstration).
ARTHUR GROLLMAN, Baltimore, and J. R. WILLIAMS JR. and T. R. HARRISON, Nashville, Tenn.
Discussion to be opened by J. MURRAY STEELE, New York; M. C. WINTERNITZ, New Haven, Conn., and EDGAR V. ALLEN, Rochester, Minn.

Treatment of Tetanus (Lantern Demonstration).
HYMAN I. VENER and ALBERT G. BOWER, Los Angeles.
Discussion to be opened by WILLARD J. STONE, Pasadena, Calif., and RICHARD H. MILLER, Boston.

Long-Term Results in the Treatment of Early Syphilis (Lantern Demonstration). PAUL PADGET, Baltimore.
Discussion to be opened by JOSEPH EARLE MOORE, Baltimore, and R. A. VONDERLEHR, Washington, D. C.

Concerning the Mode of Action of Sulfanilamide (Lantern Demonstration). PHILIP A. SHAFFER, St. Louis.

The Treatment of Septicemia: Results Before and Since the Advent of Sulfamido Compounds (Lantern Demonstration).
WALLACE E. HERRELL and ALEX E. BROWN, Rochester, Minn.
Discussion on papers of DR. SHAFFER and DRS. HERRELL and BROWN to be opened by PERRIN H. LONG, Baltimore, and WALLACE M. YATER, Washington, D. C.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN MUSIC ROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—FRANK W. HARTMAN, Detroit.
Vice Chairman—CARL J. WIGGERS, Cleveland.
Secretary—J. J. MOORE, Chicago.
Executive Committee—ROY R. KRACKE, Emory University, Ga.; M. B. VISSCHER, Minneapolis; FRANK W. HARTMAN, Detroit.

Wednesday, June 12—2 p. m.

Fundamental Principles in the Adjustment Reactions of the Organism to Anoxia (Lantern Demonstration).
ERNST GELLHORN, Chicago.

Cardiac Adaptations During Anoxia.
CARL J. WIGGERS, Cleveland.

Anoxia and the Treatment of Schizophrenia (Lantern and Motion Picture Demonstration).
H. E. HIMWICH, Albany, N. Y.

Anoxia from the Anesthetist's Point of View (Lantern Demonstration). RALPH M. WATERS, Madison, Wis.

A Study of Alpha-Lobeline, Metrazol and Nikethamide in Experimental Anoxia (Lantern Demonstration). NICHOLSON J. EASTMAN, Baltimore.

Chairman's Address: Pathology in Anoxia. FRANK W. HARTMAN, Detroit.

Thursday, June 13—2 p. m.

Capillary Strength and Permeability in Rheumatoid Arthritis (Lantern Demonstration). J. F. RINEHART San Francisco.

Cancer of the Larynx: Relation Between Gross Anatomy, Microscopic Structure and Radiosensitivity (Lantern Demonstration). MAX CUTLER, Chicago.

Effects of Tissue Extracts on Normal and Nephrectomized Dogs (Lantern Demonstration). M. C. WINTERNITZ, New Haven, Conn.

Experimental Lesions of the Aorta Simulating Arteriosclerosis (Lantern Demonstration). DON C. SUTTON and JOHN ASHWORTH, Chicago.

The Pathology of Brunner's Glands (Lantern Demonstration). H. E. ROBERTSON, Rochester, Minn.

The Effect of Pregnancy on Experimental Hypertension (Lantern Demonstration). ERNEST W. PAGE, Berkeley, Calif.; HENRY S. PATTON, Oakland, Calif., and ERIC OGDEN, Berkeley, Calif.

Compensatory Atrophy of Endocrine Glands. HANS SELYE, Montreal, Canada.

Friday, June 14—2 p. m.

Election of Officers

Tuberculoprotein Desensitization and Tuberculosis (Lantern Demonstration). H. J. CORPER and A. P. DAMEROW, Denver.

The Use of Aluminum Phosphate in the Therapy of Peptic Ulcer (Lantern Demonstration). A. C. IVY, G. B. FAULEY and A. J. ATKINSON, Chicago.

Studies on Preserved Human Blood: VI. Reactions from Transfusion (Lantern Demonstration). ELMER L. DE GOWIN and ROBERT C. HARDIN, Iowa City.

Human Serum Transfusions (Lantern Demonstration). SIDNEY O. LEVINSON, FRANK E. RUBOVITS JR. and HEINRICH NECHELES, Chicago.

The Influence of the Liver on the Utilization of Vitamin K (Lantern Demonstration). JESSE L. BOLLMAN, Rochester, Minn.

The Body Economy of Vitamin C in Health and Disease with Special Studies in Tuberculosis (Lantern Demonstration). HENRY C. SWEANY and CHARLOTTE LOUISE CLANCY, Chicago, and MOLLY H. RADFORD, Santa Fe, N. M.

Peritoneal Exudate: A Guide for the Diagnosis and Prognosis of Peritoneal Conditions (Lantern Demonstration). BERNARD STEINBERG, Toledo, Ohio.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN BALLROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—PAUL C. BUCY, Chicago.

Vice Chairman—JOHN F. FULTON, New Haven, Conn.

Secretary—J. M. NIELSEN, Los Angeles.

Executive Committee—SAMUEL D. INGHAM, Los Angeles; FRANCIS C. GRANT, Philadelphia; PAUL C. BUCY, Chicago.

Wednesday, June 12—9 a. m.

Psychotic and Somatic Interrelations (Lantern Demonstration). WILLIAM F. PETERSEN, Chicago, and HANS H. REESE, Madison, Wis.

Discussion to be opened by LLOYD H. ZIEGLER, Wauwatosa, Wis., and WENDELL S. MUNCIE, Baltimore.

Sequelae of Severe Disease of the Abdominal Viscera with Special Reference to Psychoneurosis and Imbalance of the Autonomic Nervous System (Lantern Demonstration). A. R. VONDERAHE, Cincinnati.

Discussion to be opened by LEO ALEXANDER, Boston, and WALTER FREEMAN, Washington, D. C.

Instinctive Motivations of Suicide (Lantern Demonstration). SAMUEL D. INGHAM, Los Angeles.

Discussion to be opened by A. A. BRILL, New York, and TITUS H. HARRIS, Galveston, Texas.

Electro-Encephalographic Studies of Head Injury (Lantern Demonstration). HERBERT JASPER, JOHN KERSHMAN and A. R. ELVIDGE, Montreal, Canada.

Discussion to be opened by HALLOWELL DAVIS, Boston, and TRACY J. PUTNAM, New York.

Acute Ascending Paralysis, with Clinical and Pathologic Report on Cases with Fatal Termination (Lantern Demonstration). RUSSELL N. DEJONG, Ann Arbor, Mich.

Discussion to be opened by LOUIS CASAMAJOR, New York, and PETER BASSOE, Chicago.

Polyradiculoneuritis (Guillain-Barré Syndrome) (Lantern and Motion Picture Demonstration). PAUL H. GARVEY, Rochester, N. Y.

Discussion to be opened by A. M. ORNSTEEN, Philadelphia, and FREDERICK P. MOERSCH, Rochester, Minn.

Thursday, June 13—9 a. m.

Election of Officers

Primary and Secondary Melanoma of the Central Nervous System (Lantern Demonstration). FREDERICK P. MOERSCH, Rochester, Minn.

Discussion to be opened by S. BERNARD WORTIS, New York, and CYRIL B. COURVILLE, Los Angeles.

The Nervous System in Carbon Disulfide Poisoning in Animals and Man (Lantern and Motion Picture Demonstration). BERNARD J. ALPERS and F. H. LEWY, Philadelphia.

Discussion to be opened by S. T. GORDY, Philadelphia, and ARMANDO FERRARO, New York.

Chairman's Address: Surgical Neurology and Biology. PAUL C. BUCY, Chicago.

The Significance of Trophic Lesions in the Trigeminal Area (Lantern Demonstration). LOUIS J. KARNOSH, Cleveland, and ROGER F. SCHEER, Camarillo, Calif.

Discussion to be opened by MAX MINOR PEET, Ann Arbor, Mich., and A. EARL WALKER, Chicago.

The Control of Smooth Muscle by the Nervous System (Lantern Demonstration). ORTHELLO R. LANGWORTHY and FREDERICK H. HESSER, Baltimore.

Discussion to be opened by J. W. WATTS, Washington, D. C., and LLOYD G. LEWIS, Baltimore.

The Neurologic Significance of Platybasia. ERIC OLDBERG and W. A. GUSTAFSON, Chicago.

Discussion to be opened by TRACY J. PUTNAM, New York, and LEO M. DAVIDOFF, Brooklyn.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON OPHTHALMOLOGY, GRAND BALLROOM OF THE ROOSEVELT

Results Following the Intracranial Approach for Orbital Tumors (Lantern Demonstration). WALTER E. DANDY, Baltimore.

Discussion to be opened by ARNOLD KNAPP, New York.

Sparing and Nonsparing of "Macular" Vision Associated with Occipital Lobectomy in Man (Lantern Demonstration). WARD C. HALSTEAD and A. EARL WALKER, Chicago.

Discussion to be opened by WILDER G. PENFIELD, Montreal, Canada, and P. J. LEINFELDER, Iowa City.

Comparison of Differential Diagnosis of Brain Lesions by Visual Fields, Encephalography and Ventriculography (Lantern Demonstration). ALBERT D. RUEDEMANN, Cleveland. Discussion to be opened by JOHN N. EVANS, Brooklyn.

Primary Pituitary Adenomas and the Syndrome of the Cavernous Sinus (Lantern Demonstration).
FRANCIS H. ADLER, Philadelphia.

Discussion to be opened by WILLIAM J. GERMAN JR., New Haven, Conn.

Prechiasmal Syndrome Produced by Chronic Local Arachnoiditis (Lantern Demonstration).
W. IVAN LILLIE, Philadelphia.

Discussion to be opened by TEMPLE S. FAY, Philadelphia.

The Myopathy and Etiology of Exophthalmos Experimentally Produced by Extracts of the Anterior Pituitary.
ROBERT B. AIRD and HOWARD C. NAFFZIGER, San Francisco.

Discussion to be opened by DAVID MARINE, New York, and HARRY B. FRIEDGOOD, Boston.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN WEST BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—JOHN G. DOWNING, Boston.

Vice Chairman—RICHARD S. WEISS, St. Louis.

Secretary—C. F. LEHMANN, San Antonio, Texas.

Executive Committee—JOSEPH V. KLAUDER, Philadelphia; BEDFORD SHELMIRE, Dallas, Texas; JOHN G. DOWNING, Boston.

Wednesday, June 12—9 a. m.

Chairman's Address: Dermatitis (Lantern Demonstration).
JOHN G. DOWNING, Boston.

Dermatitis of Hands in Housewives: The Role of Soaps in Its Etiology and Methods for Its Prevention (Lantern Demonstration).
JAMES W. JORDON and EARL D. OSBORNE, Buffalo.

Discussion to be opened by JOSEPH V. KLAUDER, Philadelphia.

The Personality Factor in the Psychoneurogenous Reactions of the Skin (Lantern Demonstration).
JOHN H. STOKES, Philadelphia.

Discussion to be opened by HARRY C. SOLOMON, Boston.

Dermatitis Herpetiformis: Influence of Age Factors and a Study of Pathologic Data with Special Reference to Eosinophils (Lantern Demonstration).
M. H. GOODMAN, Baltimore.

Discussion to be opened by ISADORE ROSEN, New York.

Staphylococcic Impetigo Contagiosa (Lantern Demonstration).
STEPHAN EPSTEIN, Marshfield, Wis.

Discussion to be opened by MARION B. SULZBERGER, New York.

Psoriasis (Lantern Demonstration).
JOHN F. MADDEN, St. Paul.

Discussion to be opened by DONALD M. PILLSBURY, Philadelphia.

A Clinical and Pathologic Study of Oral Disease, Based on 2,300 Consecutive Cases (Lantern Demonstration).
FRANCIS P. MCCARTHY, Boston.

Discussion to be opened by FRANK J. EICHENLAUB, Washington, D. C.

Thursday, June 13—9 a. m.

Acetylglyco-Arsenobenzene in the Treatment of Syphilis: A Clinical Study (Lantern Demonstration).
WILLIAM H. GUY, BERNHARD A. GOLDMANN, GEORGE P. GANNON and JACOB SLONE, Pittsburgh.

Discussion to be opened by HARRY M. ROBINSON, Baltimore.

The Use of Bismuth Injections to Control the Course of Therapeutic Malaria (Lantern Demonstration).
HAROLD N. COLE, GERARD A. DEORSO, JAMES R. DRIVER and HERBERT H. JOHNSON JR., Cleveland, and WALTER F. SCHWARTZ, Pasadena, Calif.

Discussion to be opened by PAUL A. O'LEARY, Rochester, Minn.

The Use of Bismuth Compounds in Syphilotherapy (Lantern Demonstration). EDMUND N. WALSH, Chicago.

Discussion to be opened by GEORGE V. KULCHAR, San Francisco.

The Aschheim-Zondek Test in Cutaneous and Mammary Malignant Growths (Lantern Demonstration).
ALBERT STRICKLER, Philadelphia.

Discussion to be opened by MILTON H. COHEN, York, Pa.

Pseudo-Epithelial Hyperplasia (Lantern Demonstration).
LOUIE H. WINER, Minneapolis.

Discussion to be opened by HAMILTON MONTGOMERY, Rochester, Minn.

The Relationship Between Epithelioma Adenoides Cysticum, Tricho-Epithelioma and Basal Cell Cancer as Illuminated by Histologic Studies of Multiple Benign Cystic Epithelioma. HERBERT L. TRAENKLE, Buffalo.

Discussion to be opened by FRANCIS A. ELLIS, Baltimore.

Multiple Benign Cystic Epithelioma: Ten Cases in One Family (Lantern Demonstruction).
HYMAN J. GOLDMAN, St. Louis.

Discussion to be opened by FRED D. WEIDMAN, Philadelphia.

Friday, June 14—9 a. m.

Election of Officers

Chromoblastomycosis: Report of a Case with Early Diagnosis and Recovery After Iodide Medication (Lantern Demonstration).
C. W. EMMONS, Washington, D. C., and W. HOWARD HAILEY and HUGH HAILEY, Atlanta, Ga.

Discussion to be opened by JOSEPH G. HOPKINS, New York.

The Blastomycosis-like Infections (Lantern Demonstration).
LESLIE M. SMITH, El Paso, Texas.

Discussion to be opened by GEORGE M. LEWIS, New York.

Milkers' Nodules (Lantern Demonstration).
F. T. BECKER, Duluth, Minn.

Discussion to be opened by M. E. OBERMAYER, Chicago.

Cutaneous Manifestation from Tobacco with Special Reference to Arsenical Exfoliative Dermatitis (Lantern Demonstration). E. E. BARKSDALE, Danville, Va.

Discussion to be opened by DUDLEY C. SMITH, Charlottesville, Va.

Adrenal Cortex Extract in the Treatment of Bromide Eruption and Bromide Intoxication (Lantern Demonstration).
CHARLES P. BONDURANT, Oklahoma City.

Discussion to be opened by M. T. VAN STUDDIFORD, New Orleans, and EUGENE F. TRAUB, New York.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN HENDRIK HUDSON ROOM OF THE ROOSEVELT

OFFICERS OF SECTION

Chairman—HAROLD S. DIEHL, Minneapolis.

Vice Chairman—CLARENCE D. SELBY, Detroit.

Secretary—W. A. SAWYER, Rochester, N. Y.

Executive Committee—ROBERT T. LEGGE, Berkeley, Calif.; I. C. RIGGIN, Richmond, Va.; HAROLD S. DIEHL, Minneapolis.

Wednesday, June 12—2 p. m.

May Workers with Coronary Disease and Hypertension Be Employed Under Medical Supervision (Lantern Demonstration)?
ARTHUR M. MASTER, SIMON DACK and HARRY L. JAFFE, New York.

Should Coronary Disease and Hypertension Be a Cause for Rejection in Industry?
H. M. F. BEHNEMAN, San Francisco.

An Evaluation of Disability Criteria in Pulmonary Diseases of Industry (Lantern Demonstration).
EDGAR MAYER, New York.

Roentgenologic Group Examinations for Pulmonary Tuberculosis in Negroes in Chicago (Lantern Demonstration).
ROBERT G. BLOCH, Chicago.

A Four Year Analysis of Silicosis: Medical Experience of the New York State Department of Labor (Lantern Demonstration). LEONARD GREENBURG, New York.

Thursday, June 13—2 p. m.

Better Patients Through Better Exhibits.
HOMER N. CALVER, New York.

A Program for Industrial Health in State and County Medical Societies (Lantern Demonstration).
CHARLES FRANCIS LONG, Philadelphia.

Opportunities for Physicians in Industry.
THOMAS L. SHIPMAN, Lynn, Mass.

Preventive Medicine. A. GRANT FLEMING, Montreal, Canada.

Applied Epidemiology in the General Hospital.
M. E. BARNES, Iowa City.

Friday, June 14—2 p. m.

Election of Officers

The Virus of Poliomyelitis in Sewage.
JOHN R. PAUL and JAMES D. TRASK, New Haven, Conn.

The Portal of Entry Problem in Poliomyelitis (Lantern Demonstration). HOWARD A. HOWE, Baltimore.

The Frequency of Poliomyelitis in Pregnancy (Lantern Demonstration). W. LLOYD AYCOCK, Boston.

Mental Hygiene Aspect of Traffic Accidents.
LOWELL S. SELLING, Detroit.

Effective Temperature Scale: A Measure of Human Comfort in Environmental Temperature (Lantern Demonstration).
MURRAY B. FERDERBER, Pittsburgh.

SECTION ON UROLOGY

MEETS IN WEST BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—FREDERIC E. B. FOLEY, St. Paul.

Vice Chairman—MEREDITH F. CAMPBELL, New York.

Secretary—VINCENT J. O'CONOR, Chicago.

Executive Committee—ALBERT J. SCHOLL, Los Angeles; WILLIAM P. HERBST, Washington, D. C.; FREDERIC E. B. FOLEY, St. Paul.

Wednesday, June 12—2 p. m.

Hypertension and the Surgical Kidney (Lantern Demonstration). WILLIAM F. BRAASCH, Rochester, Minn.

A Combined Clinical and Pathologic Study of Surgical Specimens in 150 Consecutive Patients, in Relation to Vascular Nephritis and Blood Pressure (Lantern Demonstration).
E. GRANVILLE CRABTREE and NATHAN CHASEY, Boston.
Discussion to be opened by ROY J. HOLMES, Miami, Fla.; EARL E. EWERT, Boston, and GEORGE W. FISH, New York.

The Cutaneous Diagnosis of Gonococcic Infections: A Further Report (Lantern Demonstration).
BUDD C. CORBUS and BUDD C. CORBUS JR., Chicago.
Discussion to be opened by MICHAEL WISHENGRAD, New York.

Chemotherapy in the Treatment of Gonorrhea.
RUSSELL D. HERBOLD, Chicago.

Present Status of Chemotherapy in Nonspecific Infections of the Urinary Tract (Lantern Demonstration).
EDWIN P. ALYEA, Durham, N. C.

The Clinical Experience with Sulfamethylthiazole in the Treatment of Staphylococcic Infections (Lantern Demonstration). GRAYSON L. CARROLL, St. Louis.
Discussion to be opened by CHARLES A. W. UHLE, Philadelphia, and V. ROGERS DEAKIN, St. Louis.

Thursday, June 13—2 p. m.

Chairman's Address: Surgical Treatment of "Horseshoe Kidney" (Lantern Demonstration).
FREDERIC E. B. FOLEY, St. Paul.

Pathology and Surgical Treatment of Vesical Neck Obstruction in Women (Lantern and Motion Picture Demonstration).
HUGH H. YOUNG, Baltimore.

Primary Tumors of the Ureter (Lantern Demonstration).
HARTWICK M. STANG and AMBROSE J. HERTZOG, Eau Claire, Wis.

Primary Carcinoma of the Ureter (Lantern Demonstration).
VIRGIL S. COUNSELLER and EDWARD N. COOK, Rochester, Minn.

Injury of the Kidneys with Special Reference to Early and Accurate Diagnosis Through Pyelography (Lantern Demonstration). JAMES C. SARGENT, Milwaukee.

The Technic of Perineal Prostatectomy (Lantern and Motion Picture Demonstration). EDWIN DAVIS, Omaha.

Friday, June 14—2 p. m.

Election of Officers

Sterility in the Male: Diagnosis and Treatment (Lantern Demonstration).
HENRY A. R. KREUTZMANN, San Francisco.

The Nature of Human Infertility.
SAMUEL R. MEAKER and SAMUEL N. VOSE, Boston.

Testicular Biopsy: Its Value in Male Sterility (Lantern Demonstration). CHARLES W. CHARNY, Philadelphia.

A Further Report on the Operative Treatment of Obstructive Lesions in the Testes as a Cause of Sterility in the Male (Lantern Demonstration).
FRANCIS R. HAGNER, Washington, D. C.

The Treatment of Eunuchoidism by Pellet Implantation of Methyl Testosterone. BERNARD STRAUSS, San Francisco.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN BALLROOM OF THE BILTMORE

OFFICERS OF SECTION

Chairman—ROBERT V. FUNSTEN, Charlottesville, Va.

Vice Chairman—J. ALBERT KEY, St. Louis.

Secretary—GUY A. CALDWELL, New Orleans.

Executive Committee—JOHN DUNLOP, Pasadena, Calif.; OSCAR L. MILLER, Charlotte, N. C.; ROBERT V. FUNSTEN, Charlottesville, Va.

Wednesday, June 12—2 p. m.

Fractures of the Neck of the Femur in Children (Lantern Demonstration).
WILLIAM B. CARRELL JR. and BRANDON CARRELL, Dallas, Texas.
Discussion to be opened by MARK H. ROGERS, Boston; JAMES A. DICKSON, Cleveland, and FRANCIS M. MCKEEVER, Los Angeles.

A Program for the Treatment of Compound Fractures (Lantern Demonstration).
JAMES E. M. THOMSON, Lincoln, Neb.
Discussion to be opened by ROBERT W. JOHNSON JR., Baltimore; DONALD E. MCKENNA, Brooklyn, and MYRON O. HENRY, Minneapolis.

External or Internal Fixation for Intertrochanteric Fractures (Lantern Demonstration).
G. MOSSER TAYLOR and ALONZO J. NEUFELD, Los Angeles.
Discussion to be opened by FRANK M. HAND, Washington, D. C.; ARMITAGE WHITMAN, New York, and ABRAHAM M. RECHTMAN, Philadelphia.

Spontaneous Reduction of Cervical Spine Dislocation in Children (Lantern Demonstration).
JESSE T. NICHOLSON, Philadelphia.
Discussion to be opened by WILLIAM H. VON LACKUM and BARBARA B. STIMSON, New York, and HAROLD E. CROWE, Los Angeles.

Diaphysectomy for Chronic Osteomyelitis of the Fibula (Lantern Demonstration).
CHARLES R. ROUNTREE, Oklahoma City.
Discussion to be opened by H. THEODORE SIMON, New Orleans, and MATHER CLEVELAND and JOHN R. COBB, New York.

The Use of Double Wire Traction in the Treatment of Fractures of the Shaft of the Femur (Lantern and Motion Picture Demonstration).
HAROLD A. SWART, Charleston, W. Va.
Discussion to be opened by GEORGE W. VAN GORDER, Boston; CLAY RAY MURRAY, New York, and ROGER ANDERSON, Seattle.

Thursday, June 13—2 p. m.

Election of Officers

Progressive Pseudohypertrophic Muscular Dystrophy: A New Regimen of Treatment (Lantern Demonstration).
HIRA E. BRANCH, Detroit.
Discussion to be opened by JOSEPH B. L'EPISCOPO, Brooklyn; JOSEPH A. FREIBERG, Cincinnati, and RALPH K. GHORMLEY, Rochester, Minn.

Early Operation (Spine Fusion) in Unstable Lumbosacral Joints (Lantern Demonstration).
GILBERT E. HAGGART, Boston.
Discussion to be opened by ALLEN F. VOSHELL, Baltimore; MURRAY S. DANFORTH, Providence, R. I., and FREDERICK A. JOSTES, St. Louis.

Chairman's Address: Problems in Fractures of the Lower Third of the Femur (Lantern Demonstration).
ROBERT V. FUNSTEN, Charlottesville, Va.

Extra-Articular Osteosynthesis for Nonunion of Fracture of Neck of the Femur (Lantern Demonstration).
MELVIN S. HENDERSON, Rochester, Minn.
Discussion to be opened by BENJAMIN P. FARRELL, New York; WILLIS C. CAMPBELL, Memphis, Tenn., and MARIUS N. SMITH-PETERSEN, Boston.

Surgical Closure of Osseous Tuberculous Abscesses (Lantern Demonstration). FRANK G. MURPHY, Chicago.
Discussion to be opened by W. EUGENE WOLCOTT, Des Moines, Iowa; ROBERT J. COOK, New Haven, Conn., and EARL E. VAN DERWERKER, New York.

An Improved Technic for Removal of the Semilunar Cartilage and the Postoperative Treatment (Lantern Demonstration). HAROLD R. BOHLMAN, Baltimore.
Discussion to be opened by ALAN DEFOREST SMITH, New York; PHILIP LEWIN, Chicago, and WILLIAM R. MACAUSLAND, Boston.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON SURGERY, GENERAL AND ABDOMINAL, GRAND BALLROOM OF THE COMMODORE

Automobile Accidents in a Rural Area Traversed by a Transcontinental Highway (Lantern Demonstration).
JOHN H. POWERS, Cooperstown, N. Y.
Discussion to be opened by PHILIP D. WILSON, New York.

Fracture of the Ulna with Dislocation of the Head of the Radius (Monteggia Fracture) (Lantern Demonstration).
JAMES S. SPEED and HAROLD B. BOYD, Memphis, Tenn.
Discussion to be opened by HERMAN F. JOHNSON, Omaha, and BENJAMIN FRANKLIN BUZBY, Camden, N. J.

Head Injuries (Lantern Demonstration).
HAROLD C. VOSBURGH, ADRIEN VERBRUGGHEN and JERRY J. KEARNS, Chicago.
Discussion to be opened by S. BERNARD WORTIS, New York, and DONALD MUNRO, Boston.

Indications and Technic for Operative Treatment of the External Tibial Condyle (Bumper Fracture) (Lantern Demonstration). JOSEPH S. BARR, Boston.
Discussion to be opened by CARL E. BADGLEY, Ann Arbor, Mich.; EARL D. MCBRIDE, Oklahoma City, and HAROLD R. CONN, Akron, Ohio.

The Treatment of Compound Fractures.
HARRY C. BLAIR, Portland, Ore.

Complicated Pott's Fractures Requiring Open Reduction (Lantern Demonstration).
RUFUS H. ALLDREDGE, New Orleans.
Discussion to be opened by PHILIP D. WILSON, New York; FRANK D. DICKSON, Kansas City, Mo., and GEORGE O. EATON, Baltimore.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN HENDRIK HUDSON ROOM OF THE ROOSEVELT

OFFICERS OF SECTION

Chairman—A. H. AARON, Buffalo.

Vice Chairman—FRANK C. YEOMANS, New York.

Secretary—J. A. BARGEN, Rochester, Minn.

Executive Committee—HENRY L. BOCKUS, Philadelphia; DESCUM C. MCKENNEY, Buffalo; A. H. AARON, Buffalo.

A luncheon will be held under the auspices of the section on Wednesday, June 12, 12:30 p. m., in the Small Ballroom of The Roosevelt.

Wednesday, June 12—9 a. m.

THE STOMACH AND DUODENUM

Interpretation of Gastroscopic Observations in Terms of Mucosal Changes: Histologic Study (Lantern Demonstration).
ABRAHAM J. GITLITZ, Englewood, N. J., and HENRY H. LERNER, Boston.

Clinical and Therapeutic Implications of Gastritis (Lantern Demonstration). CHESTER M. JONES, Boston.
Discussion to be opened by BURRILL B. CROHN, New York; HERMAN J. MOERSCH, Rochester, Minn.; ALFRED S. WHITE and ALLAN L. COHN, San Francisco, and JULIAN M. RUFFIN, Durham, N. C.

The Night Secretion of Free Hydrochloric Acid in the Stomach (Lantern Demonstration). FRANK C. VAL DEZ, Chicago.

Antacids: Their Reaction by Titration and Within the Human Stomach (Lantern Demonstration).
HERBERT C. BREUHAUS and JAMES B. EYERLY, Chicago.
Discussion to be opened by MOSES EINHORN, New York; HARRY GAUSS, Denver, and DAVID J. SANDWEISS, Detroit.

Neurogenic Factors in Production of Peptic Ulcer (Lantern Demonstration).
RUSSELL S. BOLES, HELENA E. RIGGS and JOHN O. GRIFFITHS, Philadelphia.

The Prognostic Significance of the Blood Urea Nitrogen Following Hematemesis or Melena (Lantern Demonstration).
LEON SCHIFF, RICHARD J. STEVENS and HAROLD K. MOSS, Cincinnati.

Surgery in Peptic Ulcers of Infants and Children (Lantern Demonstration).
CLARENCE E. BIRD, Providence, R. I.; MARGARET A. LIMPER, Louisville, Ky., and JACOB M. MAYER, Mayfield, Ky.

Fatal Hemorrhage from Peptic Ulcer (Lantern Demonstration).
JOHN M. BLACKFORD, Seattle.
Discussion to be opened by WALTER L. PALMER, Chicago; SIDNEY LEIBOWITZ and JULIUS CHASNOFF, New York; IRVING GRAY, Brooklyn; BURRILL B. CROHN, New York, and ARTHUR W. ALLEN, Boston.

Thursday, June 13—9 a. m.

THE INTESTINE

Primary Jejunal Pathology (Lantern Demonstration).
DONOVAN C. BROWNE and GEORGE GORDON MCHARDY, New Orleans.
Discussion to be opened by DAVID ADLERSBERG, New York.

The Structural Significance of the Ileocecal Valve (Lantern Demonstration).
E. G. WAKEFIELD and M. T. FRIEDELL, Rochester, Minn.
Discussion to be opened by EARNEST H. GAITHER, Baltimore.

A Clinical Entity Associated with the So-Called Nonpathogenic Ameba (Lantern Demonstration).
MAURICE M. ROTHMAN and HARRY J. EPSTEIN, Philadelphia.
Discussion to be opened by ASHER WINKELSTEIN, New York.

Carcinoma of the Colon: Early Diagnosis with Double Contrast Enema (Lantern Demonstration).
JACOB GERSHON-COHEN and HARRY SHAY, Philadelphia.
Discussion to be opened by C. ALLEN GOOD JR., Rochester, Minn., and E. C. KOENIG, Buffalo.

Gastrointestinal Complications in Pulmonary Tuberculosis (Lantern Demonstration).
LEO L. HARDT and SEYMOUR J. COHEN, Chicago.
Discussion to be opened by JOSEPH FELSEN, New York.

End Results in Radical Gastrointestinal Surgery as Seen by the Gastro-Enterologist (Lantern Demonstration).
SARA M. JORDAN, Boston.
Discussion to be opened by JOHN G. MATEER, Detroit, and A. H. AARON, Buffalo.

Anorectal Operative Procedures with Special Reference to the Avoidance of Pain, Based on a Series of 1,000 Cases (Lantern Demonstration).
HARRY E. BACON, Philadelphia.
Discussion to be opened by EMIL GRANET, New York; HENRY RAILE, Salt Lake City; CURTICE ROSSER, Dallas, Texas, and MALCOLM R. HILL, Los Angeles.

Megacolon (Lantern Demonstration).
HORACE W. SOPER, St. Louis.
Discussion to be opened by SARA M. JORDAN, Boston, and J. ARNOLD BARGEN, Rochester, Minn.

Friday, June 14—9 a. m.

Election of Officers

NEWER VITAMIN STUDIES

Vitamin Deficiencies in Diarrheal States (Lantern Demonstration).
WILLIAM BENNETT BEAN and TOM DOUGLAS SPIES, Cincinnati.

The Clinical Value of Vitamin K (Lantern Demonstration).
GARNETT CHENEY, San Francisco.
Discussion to be opened by THOMAS T. MACKIE, New York, and DONALD T. CHAMBERLIN, Boston.

THE DIGESTIVE SECRETORY SYSTEMS

The Use and Significance of Tests of Pancreatic Function (Lantern Demonstration).
MANDRED W. COMFORT, Rochester, Minn.
Discussion to be opened by JOSEPH S. DIAMOND, New York.

The Clinical Significance of Salivary, Gastric and Pancreatic Secretion in Old Age (Lantern Demonstration).
JACOB MEYER, Chicago.
Discussion to be opened by A. C. IVY, Chicago, and EDWARD S. EMERY JR., Boston.

The Management of Gallbladder Disease Based on a Cholecystographic Classification.
MAURICE FELDMAN and SAMUEL MORRISON, Baltimore.

Diseases of the Common Bile Duct and Its Relation to the Gastrointestinal Tract (Lantern Demonstration).
MOSES BEHREND, Philadelphia.

A Fractional Bromsulphalein Test Compared to Other Liver Function Tests for Residual Liver Damage (Lantern Demonstration). EMMANUEL DEUTSCH, Boston.
Discussion to be opened by MAX THOREK, Chicago; MOSES PAULSON, Baltimore; FRANKLIN W. WHITE, Boston; J. RUSSELL TWISS, New York; JULIUS FRIEDENWALD, Baltimore, and S. ALLEN WILKINSON JR., Boston.

SECTION ON RADIOLOGY

MEETS IN EAST BALLROOM OF THE COMMODORE

OFFICERS OF SECTION

Chairman—MERRILL C. SOSMAN, Boston.

Vice Chairman—RAYMOND C. BEELER, Indianapolis.

Secretary—JOHN T. MURPHY, Toledo, Ohio.

Executive Committee—B. R. KIRKLIN, Rochester, Minn.; R. G. TAYLOR, Los Angeles; MERRILL C. SOSMAN, Boston.

Wednesday, June 12—9 a. m.

Medication in the Control of Pain in Terminal Cancer with Reference to the Study of Newer Synthetic Analgesics (Lantern Demonstration).
LYNDON E. LEE JR., Wrentham, Mass.
Discussion to be opened by DAVID I. MACHT, Baltimore.

Surgical Methods for the Relief of Pain (Lantern Demonstration). FRANCIS C. GRANT, Philadelphia.

Roentgen Therapy for Bronchiogenic Carcinoma (Lantern Demonstration).
EUGENE T. LEDDY and HERMAN J. MOERSCH, Rochester, Minn.
Discussion to be opened by MAURICE LENZ, New York.

Studies in Radiation Sickness: Variations in the Intestinal Pattern in Sickness Accompanying Protracted Irradiation of Deep-Seated Tumors (Lantern Demonstration).
WILLIAM STUART WALLACE, Durham, N. C.
Discussion to be opened by ROSS GOLDEN, New York.

The Nature and Pathology of Radiation Sickness (Lantern Demonstration).
VIRGIL H. MOON, KARL KORNBLUM and DAVID R. MORGAN, Philadelphia.

Treatment of Uterine Fibromyomas (Lantern Demonstration).
WILLIAM E. COSTOLOW, Los Angeles.
Discussion to be opened by WILLIAM P. HEALY, New York.

Thursday, June 13—9 a. m.

Election of Officers

Chairman's Address: Subclinical Mitral Disease (Lantern Demonstration). MERRILL C. SOSMAN, Boston.

The Mechanical Effects of Patent Ductus Arteriosus on the Heart and Their Relation to the X-Ray Signs (Lantern Demonstration).
EUGENE C. EPPINGER and C. SIDNEY BURWELL, Boston.
Discussion to be opened by WILLIAM D. STROUD, Philadelphia.

Experiences with Surgical Treatment of the Patent Ductus Arteriosus: A Summary of Nine Cases (Lantern Demonstration). ROBERT E. GROSS, Boston.
Discussion to be opened by CLAUDE S. BECK, Cleveland.

Aneurysm of the Ventricle of the Heart (Lantern Demonstration). MARSHALL N. FULTON, Boston.
Discussion to be opened by WILLIAM J. KERR, San Francisco.

The Heart in Nutritional Deficiencies (Lantern Demonstration).
SOMA WEISS, Boston.
Discussion to be opened by TOM D. SPIES, Cincinnati.

Friday, June 14—9 a. m.

JOINT MEETING WITH SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Osteomyelitis of the Frontal Bone (Lantern and Motion Picture Demonstration). HARRIS P. MOSHER, Boston.

Radiologic Aspects of Osteomyelitis of the Frontal Bone (Lantern Demonstration). A. S. MACMILLAN, Boston.
Discussion on papers of DRS. MOSHER and MACMILLAN to be opened by CORNELIUS G. DYKE, New York; ARTHUR C. JONES, Boise, Idaho; JOSEPH E. J. KING, New York, and SAMUEL R. SKILLERN JR., Philadelphia.

The Complications of Mastoid Surgery (Lantern Demonstration). GORDON F. HARKNESS, Davenport, Iowa.

Roentgen Signs of Mastoiditis and Its Complications (Lantern Demonstration).
VINCENT C. JOHNSON, Ann Arbor, Mich.
Discussion on papers of DRS. HARKNESS and JOHNSON to be opened by ERNEST M. SEYDELL, Wichita, Kan., and FREDERICK M. LAW and ISIDORE FRIESNER, New York.

Radiologic Treatment of Metastatic Cervical Lymph Nodes (Lantern Demonstration).
CHARLES L. MARTIN, Dallas, Texas.
Discussion to be opened by JAMES J. DUFFY and DOUGLAS QUICK, New York, and C. A. WHITCOMB, Philadelphia.

SECTION ON MISCELLANEOUS TOPICS, SESSION ON ANESTHESIA

MEETS IN EAST BALLROOM OF THE COMMODORE

OFFICERS OF SESSION

Chairman—PAUL M. WOOD, New York.

Secretary—HENRY S. RUTH, Merion, Pa.

Wednesday, June 12—2 p. m.

Chairman's Address (Lantern Demonstration).
PAUL M. WOOD, New York.

Anesthesia and Liver Injury with Special Reference to Plasma Prothrombin Levels (Lantern Demonstration).
STUART C. CULLEN, S. E. ZIFFREN, R. B. GIBSON and H. P. SMITH, Iowa City.
Discussion to be opened by HUBERTA M. LIVINGSTONE, Chicago, and HUBERT R. HATHAWAY, Madison, Wis.

Studies on the Absorption of Carbon Dioxide from Anesthetic Mixtures (Lantern Demonstration).
E. A. ROVENSTINE and JOHN ADRIANI, New York.
Discussion to be opened by RALPH M. WATERS, Madison, Wis., and JOSEPH KREISELMAN, Washington, D. C.

Abdominal Blocks in Conjunction with General Anesthesia for Upper Abdominal Surgery (Lantern Demonstration).
RALPH M. TOVELL and CHARLES B. HINDS JR., Hartford, Conn.
Discussion to be opened by JOHN S. LUNDY, Rochester, Minn.

The Anesthetist's Part and Opportunity in the Diagnosis and Treatment of Postoperative Atelectasis (Lantern Demonstration). LLOYD H. MOUSEL, Rochester, Minn.
Discussion to be opened by U. H. EVERSOLE, Boston, and HERMAN J. MOERSCH, Rochester, Minn.

Criteria in the Choice of Anesthesia (Lantern Demonstration). MEYER SAKLAD, Providence, R. I.
Discussion to be opened by A. H. MILLER, Providence, R. I., and CHARLES F. MCCUSKEY, Glendale, Calif.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will occupy the fourth floor of the Grand Central Palace, reached by elevators or stairways from the Technical Exhibit on the three lower floors.

In addition to groups of exhibits sponsored by the sections of the Scientific Assembly, there will be several features of interest. The Board of Trustees has authorized three special exhibits—fractures, lame backs and fresh pathology. The exhibit symposium on heart disease, presented in cooperation with the American Heart Association, includes material not only on the subject of heart disease but also on peripheral vascular disease, as well as a group of motion pictures in an area adjoining the exhibit. Other motion picture programs will be conducted by the Section on Dermatology and Syphilology and the Section on Nervous and Mental Diseases.

Admission to the Scientific Exhibit will be limited to persons wearing Fellowship or other badges of the convention and to guests to whom special cards of admission have been issued. The public will not be admitted to the Scientific Exhibit.

Special Exhibit on Fractures

The special exhibit on fractures is continued again under the auspices of the same committee which has conducted the exhibit for the past several years:

Kellogg Speed, Chicago, chairman.
Frank D. Dickson, Kansas City, Mo.
Walter Estell Lee, Philadelphia.

The following subjects will be considered:

1. Plaster of Paris: Making and Storing.
2. Application of Plaster of Paris.
3. Fracture of the Lower End of the Radius.
4. Fracture of the Spine—Compression.
5. Fracture of the Ankle.
6. Emergency Treatment of Fractures of the Lower Extremities.

Dr. Henry H. Ritter, New York, is local representative for the fracture exhibit.

The following physicians will take part in the demonstration:

John D. Adams, Boston.
W. A. Boyd, Columbia, S. C.
Eugene J. Bonsan, New York.
Dwight F. Clark, Evanston, Ill.
J. R. Cobb, New York.
Francis M. Conway, New York.
George J. Curry, Flint, Mich.
Irvin E. Doherty, Camden, N. J.
Egbert Fell, Chicago.
L. K. Ferguson, Philadelphia.
Ralph E. Goodall, New York.
Halford Hallock, New York.
V. L. Hart, Minneapolis.
John C. Howell, Philadelphia.
Robert R. Inquist, Reading, Pa.
Frederick A. Jones, St. Louis.
Robert H. Kennedy, New York.
K. M. Lewis, New York.
James R. Lincoln, New York.
Walter D. Ludlum Jr., New York.
Lewis Mangus, Philadelphia.
James W. Martin, Omaha, Neb.
James B. Mason, Philadelphia.
Earl D. McBride, Oklahoma City.
Arthur R. Metz, Chicago.
C. H. Moore, Philadelphia.
Gordon M. Morrison, Boston.
R. J. Moss, Rockford, Ill.
John R. Nilsson, Omaha, Neb.
John Paul North, Philadelphia.
E. Payne Palmer, Phoenix, Ariz.
Russel H. Patterson, New York.
Grover C. Penberthy, Detroit, Mich.
Francis G. Pipkin, Kansas City, Mo.
L. M. Rankin, Upper Darby, Pa.
Sheppard Remington, Chicago.
Dean L. Rider, Riverside.
R. C. Robertson, Chattanooga, Tenn.
L. D. Smith, Milwaukee, Wis.
Russell F. Sullivan, Boston.
Thomas J. Summey, Philadelphia.
Arthur A. Thibodeau, Boston.
H. W. Virgin Jr., Madison, Wis.
Milton J. Wilson, New York.
James M. Winfield, Detroit, Mich.
Walter D. Wise, Baltimore, Md.

Special Exhibit on Lame Backs

The special exhibit on lame backs is presented for the first time this year under the auspices of an exhibit committee composed of:

Frank R. Ober, Boston, chairman.
Carl Badgley, Ann Arbor, Mich.
J. Archer O'Reilly, St. Louis.
Arthur Steindler, Iowa City.
Philip D. Wilson, New York.

An advisory committee is composed of:

E. J. Carey, Milwaukee.
Fremont Chandler, Chicago.
H. Earle Conwell, Birmingham, Ala.
John S. Coulter, Chicago.
Frank Dickson, Kansas City, Mo.
Albert Ferguson, New York.
Angus Frantz, New York.
Kristian Hansson, New York.
Albert Key, St. Louis.
Philip Lewin, Chicago.
Jason Mixter, Boston.
John Saunders, San Francisco.
Robert Schrock, Omaha.
Byron Stookey, New York.
Theodore Willis, Cleveland.
Harlan Wilson, Columbus, Ohio.
W. E. Wolcott, Des Moines, Ia.

The exhibit deals with the following factors:

Anatomy.
Pathology.
Examination of lame backs.
Roentgenograms.
Physical therapy.

A competent corps of demonstrators will be present continuously throughout the week, consisting of the following:

Randolph Anderson, Charleston, W. Va.
Joseph S. Barr, Boston.
Maurice Bellerose, Burlington, Vt.
Leo Brett, Boston.
Lloyd T. Brown, Boston.
James A. Dickson, Cleveland.
Joseph A. Freiberg, Cincinnati.
Robert V. Funsten, University, Va.
Maxwell Harbin, Cleveland.
Carl T. Harris, Rochester, N. Y.
R. Nelson Hatt, Springfield, Mass.
Clarence Heyman, Cleveland.
W. Richard Hochwalt, Dayton, Ohio.
Louis G. Howard, Boston.
M. Beckett Howorth, New York.
H. F. Johnson, Omaha.
Frederick A. Jones, St. Louis.
Raymond Lenhard, Baltimore.
Daniel Levinthal, Chicago.
Joseph E. Milgram, Brooklyn.
W. Barclay Moffat, Red Bank, N. J.
Denis S. O'Connor, New Haven, Conn.
John W. O'Meara, Worcester, Mass.
Theodore E. Orr, Philadelphia.
W. Barnett Owen, Louisville, Ky.
Robert L. Patterson, New York.
Maurice M. Pike, Hartford, Conn.
Frank N. Potts, Buffalo.
Nicholas S. Ransohoff, New York.
Abraham M. Rechtman, Philadelphia.
Alan DeF. Smith, New York.
Daniel M. Stiefel, Detroit.
T. Campbell Thompson, New York.
James E. M. Thomson, Lincoln, Neb.
William H. Von Lackum, New York.
Allen F. Voshell, Baltimore.
Edward T. Wentworth, Rochester, N. Y.
Harry Winkler, Charlotte, N. C.

Special Exhibit on Fresh Pathology

The special exhibit on fresh pathology is presented with the cooperation of the Section on Pathology and Physiology by an exhibit committee composed of:

Harrison S. Martland, Newark, N. J., chairman.
Gilbert J. Dalldorf, Valhalla, N. Y.
Milton Helpern, New York.

The advisory committee consists of the following:

Thomas A. Gonzales, New York.
James W. Jobling, New York.
Paul Klemperer, New York.
David Marine, New York.
Eugene L. Opie, New York.
Maurice N. Richter, New York.
Armin V. St. George, New York.

Demonstrations will be carried on continuously throughout the week by the following pathologists:

William Antopol, Newark, N. J.
William Araeson, New York.
Charles G. Darlington, New York.
Joseph Felsen, New York.
Arthur M. Ginzler, New York.
Joseph H. Globus, New York.
Irving Graef, New York.
Leila C. Knox, New York.
Louis L. Lefkowitz, New York.
Louise H. Meeker, New York.
Rudolf M. Paltauf, New York.
David Perla, New York.
Abou D. Pollack, New York.
S. Milton Rabson, New York.
Julius Rosenthal, New York.
Angelo M. Sala, New York.
Solomon Weintraub, New York.

Section on Orthopedic Surgery

The representative to the Scientific Exhibit from the Section on Orthopedic Surgery is Mather Cleveland, New York.

R. K. GHORMLEY, E. F. ROSENBERG and P. S. HENCH, Mayo Clinic, Rochester, Minn.:

Types of Rheumatic Diseases: Exhibit presenting a summary of the pathologic features together with characteristic clinical and roentgenologic changes of the commoner rheumatic diseases such as rheumatoid arthritis, gout, gonorrheal and other specific arthritides, fibrositis, hypertrophic arthritis, Heberden's nodes, Charcot's joint, tuberculous arthritis, and osteochondromatosis; each type of disease illustrated by means of clinical photographs, roentgenograms, histologic preparations and moulages.

CHARLES F. GESCHICKTER and I. H. MASERITZ, Baltimore:

Bone Tumors: Exhibit of roentgenograms, translite films, photomicrographs, gross specimens and microscopic sections presenting a complete series of primary and secondary tumors of bone presented from clinical, roentgenologic and pathologic points of view; early and late roentgenologic changes and the corresponding pathologic pictures; roentgenologic variations commonly observed in daily practice; difficulties in clinical diagnosis and the similarity between various types of primary and secondary tumors, osseous changes in leukemia and various diseases of bone.

PHILIP LEWIN, Chicago:

Foot and Ankle: Their Injuries, Diseases, Deformities and Disabilities: Exhibit of transparencies, roentgenograms, drawings, models, charts, diagrams, motion pictures and demonstra-

tions discussing the etiology, pathologic changes, symptoms, diagnosis and treatment of injuries, diseases and defects of the foot and ankle, including congenital, developmental, traumatic, static, infectious arthritic, paralytic and neoplastic conditions; braces, plaster of paris casts and other apparatus; evaluation of physical therapy; methods of applying adhesive strapping to the foot, ankle and calf; obstetric and industrial aspects of the subject and estimation of disability; neurogenic lesions and peripheral vascular lesions; demonstration of shoes and shoe fitting with the more common internal and external modifications of shoes shown on actual models; routine examination of the foot and ankle.

The Grand Central Palace, New York City's well known exposition building, (located on Lexington Avenue, between 46th and 47th Streets), has been selected for the Scientific and Technical Exhibition to be held in connection with the 91st Annual Session of the American Medical Association in New York City, June 10-14, 1940. The Registration and Information Bureaus, Alumni Registration, and facilities such as railroad, steamship and plane reservations, telegraph and other accommodations, will also be located in this building.

DAVID SASHIN, New York:

Ankylosing Spondylarthritis (Marie-Strümpell-Bechterew's Spine): Exhibit of charts, drawings and tables showing sex and age incidence, present concept of etiology, pathology and differential diagnosis; macerated specimens of the spine and sacroiliac joint; photographs, roentgenograms and case histories tracing the clinical course; orthopedic supports, plaster of paris and celluloid corsets and braces; exhibit points out disabling and deforming character of this condition and stresses the importance of early diagnosis and the use of orthopedic measures in treatment and in prevention of deformities.

R. PLATO SCHWARTZ and ARTHUR L. HEATH, Strong Memorial Hospital, Rochester, N. Y.:

Foot Pressure—Where, When and How Much: Exhibit showing that in response to respective muscles the plantar surface of the foot serves different functions in particular areas; this difference is accompanied by differences in pressure at corresponding levels from heel to toe in the "normal" stance phase of the step; both mild and severe limitations in function of the foot are accompanied by characteristic changes in pressure at particular places; the "normal" painless foot, shod and unshod, has a very different pressure distribution; the same is true of pronated feet with and without callosities; the definition and removal of excessive pressure is a clinical problem which will be expressed by measurement of relative pressures during the act of walking; the recorded pressures of these and other conditions encountered in daily practice are presented; the instrument with which such records are made is demonstrated; motion pictures.

C. R. ROUNTREE and STANLEY SELL, Crippled Children's Hospital, Oklahoma City:

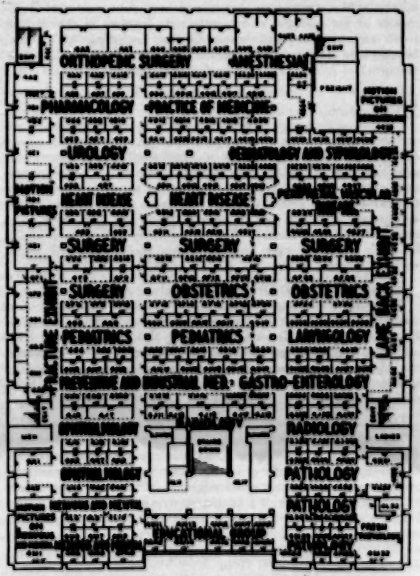
Diaphysectomy for Chronic Osteomyelitis of the Fibula: Exhibit of roentgen studies before and after removal of the fibula, with a brief summary of the case history including date of operation and end result; attention given to the disturbance in growth in length following removal of a large part of the shaft of the fibula and the degree of regeneration which ensues following this procedure; drawings showing the technic of the operation.

E. K. CRAVENER and D. G. MACELROY, Schenectady, N. Y.:

Development, Mechanism and Injuries of the Internal Semilunar Cartilage: Exhibit of models, charts and graphs presenting the development, mechanics and functions of the semilunar cartilage; mechanism of injuries with changes which develop after meniscus injuries; study of body types in which cartilage injuries develop, with correlation of body structure to predisposition; physiologic changes which accompany the advance of age.

WILLIS C. CAMPBELL, J. S. SPEED, HAROLD B. BOYD and HUGH SMITH, Willis C. Campbell Clinic, Memphis, Tenn.:

Treatment of Fractures of the Ulna with Dislocation of the Head of the Radius (Monteggia Fracture): Exhibit of roentgenograms showing the methods of treatment and end results in fractures of the ulna with operative exposure of this fracture; various methods of treatment, functional results and operative technic illustrated by drawings and motion pictures.



The Scientific Exhibit, fourth floor, Grand Central Palace.

CHARLES F. NELSON and ROLAND C. NELSON, The Nelson Clinic, Beverly Hills, Calif.:

Bone Metabolism: Exhibit showing the factors concerned in bone metabolism as related to healing of fractures, posture and bone disease; histologic preparations, colored photomicrographs,

roentgenographic transparencies and models demonstrating the effect of various minerals, glands and vitamins on the healing and development of bone.

SAMUEL KLEINBERG, New York, and THOMAS HORWITZ, Philadelphia:

Investigation into the Obstetric Experience of Women Who Have Had Infantile Paralysis: Exhibit presenting the analysis of 328 cases divided into three studies: (1) the pelves of 101 unselected women paralyzed by previous acute anterior poliomyelitis examined and measured roentgenographically; various factors which led to pelvic deformation evaluated; (2) cases of twenty-nine patients in whom an acute attack of anterior poliomyelitis complicated pregnancy, analyzed from the literature and from own records; (3) cases analyzed of 243 patients in whom pregnancy occurred one year or more after the acute phase of illness, with notations on the degree of paralysis, pelvic deformity, course of pregnancy, complications of pregnancy, progress and management of labor, type of delivery and complications in the mother and offspring following delivery.

MAURICE H. HERZMARK, New York:

Evolution of the Knee Joint: Exhibit of illustrations of dissections of the interior of the knee joints of animals in line of ascent from amphibians to primates, showing the evolution of the various structures of the knee, such as synovia, menisci, cruciate ligaments, and patella.

PHILIP D. WILSON and DOMINIC A. DE SANTO, Hospital for Ruptured and Crippled, New York:

Synovial Membrane Tumors: Exhibit of photographs, photomicrographs, specimens, roentgenograms, histories and summaries of the essential clinco-pathologic features of the various joint and synovial membrane tumors, including xanthomas, hemangiomas, lipomas and sixteen cases of synovioma (synovial sarcoma) of joint, bursa and tendon sheath origin.

BENJAMIN P. FARRELL and ALBERT B. FERGUSON, New York:

Cure of Tuberculous Joints: Exhibit showing surgical cure of tuberculous joints; after successful surgical fusion of a tuberculous joint the tissues reach a state recognizable roentgenographically as a healthy appearance; that this indicates permanent cure of the local tuberculous lesion of the joint is shown by the exhibition of prints from all the cases which developed the appearance of health and in none of these has there been local recurrence of the disease; this recognizably cured state of the lesion is rarely if ever seen following conservative treatment without surgical fusion.

EDWIN DAVID WEINBERG, Baltimore:

Syphilitic Bone and Joint Lesions: Exhibit consisting of a study of several hundred cases which reveals the ability of syphilitic bone and joint lesions to simulate almost any known bone and joint condition; an attempt is made to correlate the history, the clinical and x-ray changes with the pathologic picture; included in the series are cases in which bones have been resected because it was thought the lesion was malignant.

DAVID BOSWORTH and MATHER CLEVELAND, New York:

Tuberculosis of the Spine, Correlation of Pathology and Roentgen-Ray Examinations: Exhibit showing transparencies of roentgenograms before death; photograph of split specimen and transparencies of roentgenograms of the split specimens presented to correlate the roentgenograms and clinical picture before death with the actual conditions which were present; mounted specimens; motion picture showing tuberculous lesions of the spine of various periods of destruction, with complications and differential diagnosis from other lesions.

Exhibits on Anesthesia

The exhibits on anesthesia are presented in cooperation with the Section on Miscellaneous Topics, Session on Anesthesia.

F. W. HARTMAN, ROY D. MCCLURE, J. G. SCHNEDORF and VICTOR SCHELLING, Henry Ford Hospital, Detroit:

Anoxia as Related to Anesthesia: Production, Prevention, Treatment and Pathology: Exhibit presenting an experimental and clinical study showing the effect of various sedatives and anesthetics on the oxygen saturation of the arterial blood as determined by the Van Slyke, Kramer and improved Kramer apparatus in large groups of animals and patients; parallel experimental observations as to the effect of sedatives and anesthetics on tissue respiration made with the Warburg apparatus; pathology of anoxia as produced in the experimental animal and patients with alcohol, sedatives, anesthetics and fever therapy; methods for combating anoxia, including oxygen therapy.

JOHN S. LUNDY, L. H. MOUSEL, R. C. ADAMS and E. B. TUOHY, Mayo Clinic, Rochester, Minn.:

Technic of Local, Regional and Endotracheal Anesthesia: Exhibit of models showing regional and local anesthesia of the scalp, head, neck, thorax, abdomen, inguinal canal and sacrum; spinal, peridural and perivertebral, posterior splanchnic, sacral and caudal anesthesia; models so made that one half shows the important superficial landmarks for the point of approach while the other half shows dissection deep to the level of the point of the needle where the solution is deposited; anatomic models showing technic of endotrachael anesthesia.

ALBERT BEHREND, HELENA E. RIGGS and MOSES BEHREND, Philadelphia:

Anoxia in Surgery: Exhibit presenting the subject of anoxia in surgery and including an outline of the types of anoxia, the causes that predispose to such anoxia and a discussion of the prevention and treatment of anoxia in surgery.

JOHN ADRIANI and E. A. ROVENSTINE, New York University College of Medicine, New York:

Absorption of Carbon Dioxide from Anesthetic Mixtures: Exhibit of photographs, charts and drawings illustrating the development and comparing the appliances in use for the absorption of carbon dioxide from respired atmospheres; recent observations on the chemistry, physics and bacteriology involved; model used to visualize the clinical application of carbon dioxide absorption during inhalation anesthesia.

F. A. D. ALEXANDER and HAROLD E. HIMWICH, Albany Medical College and Albany Hospital, Albany, N. Y.:

Symptomatology and Physiology of Anoxia: Exhibit demonstrating the symptomatology and mechanisms of production of oxygen want by means of motion pictures, charts and tables; a schematic representation of the various sites in the systems associated with the transport of the physiologic gases where obstruction or insufficiency may result in anoxia; a comparison of the signs and symptoms of acute and chronic oxygen want; experimental evidence of oxygen requirements of the various parts of the brain, and of the relative resistance of the brain of the newborn to oxygen want as compared with the adult.

RUTH M. LATHAM, Detroit:

Reduction in Amount of Inhalation Anesthetic with Use of Pitressin (Preliminary Surgical Reports): Exhibit demonstrating advantages of the vasopressor principle of solution of posterior pituitary and its ability to reduce the amount of inhalation anesthetic agent required for adequate surgical relaxation in abdominal surgery; the effects of pitressin on blood pressure, respiration, pulse and circulation, bleeding and postoperative distention; advantages enumerated are reduction in amount of inhalation anesthetic required, creation of relatively quiet field, no ballooning, ease of packing of operative site, decreased reaction to surgical manipulation and consequent reduction of trauma, ease of closure of incision and aid in postoperative convalescence by reducing surgical trauma and anesthetic aftereffects.

OTTO STEINBROCKER, New York:

Local and Regional Analgesia for Intractable Arthralgia, Neuralgia and Related Conditions: Exhibit showing a summary of the indications, contraindications and some technics in the application of local and regional analgesia to the diagnosis and treatment of intractable pain and disability in arthritis and allied conditions; the more common procedures illustrated with three dimensional diagrammatic models and brief descriptive outlines; the various solutions employed enumerated; table of the results included; motion pictures illustrating some technic.

AMERICAN SOCIETY OF ANESTHETISTS, New York:

Anesthesiology—Historical Development: Exhibit showing bibliofilm of historically significant books on anesthesia with museum specimens, charts and objects of unusual significance

in the development of anesthesia in all its forms; inhalation therapy and resuscitation; rare books and original pieces of clinical apparatus; Snow's own copy of his first volume on ether; Waters' first carbon dioxide absorber; original cyclopropane gages; first book on chloroform; first hundred articles on artificial sleep; early syringes.

Section on Pharmacology and Therapeutics

The representative to the Scientific Exhibit from the Section on Pharmacology and Therapeutics is Wallace M. Yater, Washington, D. C.

ALVIN E. PRICE, ARTHUR W. FRISCH, JACK ROM, GORDON B. MYERS and CHARLES E. LEMMON, City of Detroit Receiving Hospital, Detroit:

Specific Treatment of Pneumococcic Pneumonia: Exhibit of charts illustrating the clinical response of selected cases to serum, sulfanilamide, sulfapyridine and sulfathiazol; photomicrographs illustrating sputum changes produced by the various therapeutic agents; tables summarizing clinical results with various forms of therapy; tables illustrating the relationship of the number of organisms in the sputum to the outcome of the pneumonia.

NORMAN PLUMMER, New York:

Pneumonia: Diagnosis and Treatment: Exhibit of charts, tables and photographs showing recent developments in the diagnosis and treatment of pneumonia; technics of sputum typing, blood culture examination and sulfapyridine determination; significance of the results of these tests; results of serum therapy and chemotherapy; motion picture presenting briefly the historical background of pneumonia therapy and depicting the actual admission and treatment of a patient with pneumonia.

J. H. CLARK, HARRISON F. FLIPPIN, JOHN G. REINHOLD, S. BRANDT ROSE and L. SCHWARTZ, Philadelphia General Hospital, Philadelphia:

Pneumonia Studies: Exhibit of charts illustrating the pneumonia mortality at the Philadelphia General Hospital during the past seven years; comparative study of the various forms of therapy now available for the treatment of pneumonia; certain observations on the therapeutic effectiveness as well as studies on the pharmacology and toxicology of a new chemotherapeutic agent, namely sulfathiazole; suggestions regarding the handling of patients with pneumococcic pneumonia.

A. E. BENNETT, A. R. MCINTYRE and A. L. BENNETT, University of Nebraska College of Medicine, Omaha:

Pharmacologic and Clinical Investigations with Crude Curare: Exhibit of charts, photographs and motion pictures showing the method of collecting botanically authenticated curare from Indian medicine men in the South American jungle; preparation of alcoholic extracts of potent curare, biologic assay standardization technic; pharmacologic and neurophysiologic experiments demonstrating the drug's action; outline of clinical indications and therapeutic effectiveness of the drug in various neurologic disorders; a new method of preventing traumatic complications from convulsive shock therapy by curarization.

GEORGE MILEY, Philadelphia:

Ultraviolet Irradiation of Autotransfused Blood in the Treatment of Acute Pyogenic Infections: Exhibit of motion pictures showing the technic of irradiating blood with ultraviolet spectral energy in accordance with established principles underlying the irradiation of fluids in general; display of the essential apparatus used; charts showing how dosage is determined and kept relatively constant, and showing the results of this type of therapy in selected cases of acute pyogenic infection, of which over one half had an associated bacteremia; books containing the individual case histories of each of the cases.

SIDNEY O. LEVINSON, HEINRICH NECHELES and FRANK NEUWELT, Michael Reese Hospital, Chicago:

Serum as Substitute for Blood in Transfusions: Exhibit of pictures, charts, graphs, tables, kymograph records and short explanatory descriptions of experiments proving the practicability and advantages of serum versus blood transfusion; pictures of processing of serum and its preparation for storage, transportation and transfusion; charts of serum transfusion in patients.

HAROLD A. ABEL and LOUIS WASSERMAN, New York, and S. J. PENCHANSKY, Bayonne, N. J.:

Management of a Blood Bank: Exhibit showing the modus operandi in the use of conserved blood in a general hospital; indications and contraindications; demonstration of material used, as sterile bundle, inexpensive flask, recipient's intravenous set; results of transfusions with respect to rise in hemoglobin in medical and postoperative cases, untoward reactions, chills, fever, urticaria, jaundice, experimental data.

H. M. MARGOLIS, VICTOR W. EISENSTEIN and GILBERT KRAUSE, Pittsburgh:

Dihydrotachysterol in the Treatment of Hypoparathyroid Tetany: Exhibit of charts indicating the usual clinical manifestations of hypoparathyroid tetany and the possible sequelae of uncontrolled hypoparathyroidism; various forms of treatment employed with special emphasis on the results attainable with dihydrotachysterol.

CHARLES G. JOHNSTON, JAMES M. WINFIELD and J. LOGAN IRVIN, Wayne University College of Medicine, Detroit:

A Study of Bile—Its Therapeutic and Physiologic Effects and Chemical Analysis: Exhibit of charts, transparencies and photographs delineating the use of whole bile in suitable clinical cases; the effect of whole bile on the stomach and small intestine of human beings and dogs; the comparative chemical analyses of various types of bile and the effect of whole bile on the absorption of various substances from the intestine.

Section on Practice of Medicine

The Section on Practice of Medicine is presenting exhibits on various phases of internal medicine and is contributing to the Exhibit Symposium on Heart Disease. The representative to the Scientific Exhibit from the Section on Practice of Medicine is Fred M. Smith, Iowa City.

WARREN T. VAUGHAN, Richmond, Va.:

Allergic Dermatoses: Exhibit of photographs illustrating the difference between contact dermatitis and atopic dermatitis; epidermophytids; characteristic cutaneous lesions produced by different types of contact substances such as cosmetics, clothing, shoes, and occupational dust; methods of diagnostic study; slides illustrating the dermatoses, methods of testing and results of allergic therapy.

ABRAHAM RUDY, S. RICHARD MUELLNER and SAMUEL H. EPSTEIN, Boston:

Vitamin Deficiency States in Diabetes Mellitus: Exhibit showing that vitamin deficiencies are observed in controlled and uncontrolled diabetic patients, manifesting themselves in mental, neurologic, bladder, skin, eye and other disturbances; clinicopathologic, cystometric, photographic and roentgen findings shown; unusual cases of deficiency of vitamin B_1 (thiamin chloride) and of the various components of the vitamin B complex, such as nicotinic acid and riboflavin, as well as of multiple deficiencies presented.

L. E. PRICKMAN and H. J. MOERSCH, Mayo Clinic, Rochester, Minn.:

Bronchial Stenosis; A Complication of Asthma: Exhibit of models, roentgenograms of the chest, temperature charts and other important diagnostic data, showing that bronchostenosis is an important complication of asthma, occurring more frequently than is generally appreciated, and showing what can be done to bring about prompt relief.

DAVID REISNER, Bureau of Tuberculosis of the Department of Health, Sea View and Metropolitan hospitals, New York:

Boeck's Sarcoid and Generalized Sarcoidosis (Boeck-Besnier-Schaumann's Disease): Exhibit of a statistical analysis of findings, photographs illustrating the various types of cutaneous manifestations, roentgenograms of osseous lesions and of various forms of involvement of the lungs, the mediastinal and hilar lymph nodes; histopathologic examination illustrated by a series of photomicrographs of the skin, lymph nodes, lung, spleen, parotid gland and eye; illustrating the character of the lesions in the various organs and emphasis on the generalized nature of the morbid entity; clinical evolution of the disease and the differentiation between stationary, retrogressive and progressive types.

MANFRED W. COMFORT and ARNOLD E. OSTERBERG, Rochester, Minn.:

Tests for Pancreatic Function: Their Application to the Diagnosis of Pancreatic Diseases: Exhibit enumerating the functions of the pancreas and tests for their study; technic of collection of the external pancreatic secretion; disturbances of pancreatic function disclosed by chemical analysis of external pancreatic secretion following stimulation with purified secretion and acetyl-beta-methylcholine chloride (mecholyl chloride); disturbances in values of the enzymes in the serum in pancreatic disease; role of tests in the diagnosis of diseases of the pancreas.

PAUL GROSS and FRANK B. COOPER, The Western Pennsylvania Hospital, Pittsburgh:

Urolithiasis Medicamentosa: Exhibit of specimens of lesions of urinary tract and uroliths in rats produced by the administration of sulfapyridine, sulfathiazole and sulfamethylthiazole with photographic enlargements, microscopic sections and photomicrographs.

DAVID AYMAN and ARCHIE D. GOLDSHINE, Boston:

Blood Pressure Determinations by Patients with Essential Hypertension: The Difference Between Clinic and Home Readings Before, During and After Treatment: Exhibit describing patients with various degrees of essential hypertension who had their blood pressure studied over a long period in the clinic and at home; results of study showing that the home systolic and diastolic blood pressure readings are lower than the clinic readings in all cases of essential hypertension; home and clinic readings plotted on graph paper; effect of nitrites, placebos and sedatives; effect of sympathetic resections showing differences between the home and the clinic.

MAURICE BRUGER, J. WILLIAM HINTON and WALTER G. LOUGH, New York:

Iodine Studies in Thyroid Disorders: Exhibit of photomicrographs of normal and pathologic thyroid glands with total, organic and inorganic iodine on each specimen; normal glands divided into age groups; pathologic glands divided into three large categories: toxic goiter of the exophthalmic type, toxic adenoma and nontoxic adenoma; table giving the iodine content of blood in normal subjects and in patients with thyroid disorders; graph relating the total iodine in the blood to the basal metabolic rate in thyroid disorders.

JOHN W. GRAY, WILLIAM G. BERNHARD, GEORGE L. ERDMAN, JOHN E. TOYE, DANIEL E. KAVANAUGH, JEROME H. SAMUEL and ELIZABETH W. BYRNES, Hospital of St. Barnabas and for Women and Children, Newark, N. J.:

Treatment of Rheumatoid Arthritis: Exhibit of charts showing the general and rehabilitation treatment of rheumatoid arthritis with motion picture of corrective measures.

IRVING H. PAGE, K. G. KOHLSTAEDT, A. C. CORCORAN, O. M. HELMER, P. J. FOUTS and G. F. KEMPF, Indianapolis City Hospital, Indianapolis:

Nature of Hypertension: Exhibit illustrating recent functional studies on the nature of the hemodynamic changes within the kidneys before and after the production of hypertension and after the injection of renin and angiotonin; production of renin by the kidney; perinephritic method for the production of hypertension and the mechanism of the humoral control of blood pressure.

ELLIOTT P. JOSLIN, LOUIS I. DUBLIN, HERBERT H. MARKS, H. F. ROOT, PRISCILLA WHITE, ALEXANDER MARBLE and A. P. JOSLIN, Boston:

Diabetes Mellitus: Exhibit presenting current statistics relating to incidence of the disease, with original survey data from Arizona; mortality and prevalence as affected by our aging population; the outlet for the next ten years. Treatment with diet and insulins; diabetic hazards and how to meet them; prevention and treatment of coma and gangrene; management of pregnancy; prognosis of diabetes today. Current research in the determination of the effect of hormonal imbalance on pregnancy and in substitutional replacement therapy; experimental work on the causes and prevention of diabetes, with special reference to endocrine relationships.

Section on Urology

The representative to the Scientific Exhibit from the Section on Urology is John H. Morrissey, New York.

A. R. STEVENS, HOWARD S. JECK, R. S. HOTCHKISS, JOHN W. DRAPER, G. A. HUMPHREYS, A. M. MCLELLAN, F. C. MCLELLAN, W. R. DELZELL, G. W. SLAUGHTER, JOHN H. MORRISSEY and JOHN MACLEOD, Cornell University Medical College New York Hospital and Bellevue Hospital, New York:

Experimental and Clinical Investigations in Urology: Exhibit of charts, illustrations and motion pictures demonstrating results obtained in experimental work and clinical investigations on cystometry, effect of testosterone on benign hyperplasia, clinical and metabolic study of human sperm, methods of induced hyperpyrexia, technic of cysto-urethrograms and uretero-intestinal anastomosis in dogs.

MEREDITH CAMPBELL and M. J. FEIN, New York University, New York, and Mountainside Hospital, Montclair, N. J.:

Urologic Pathology: Exhibit of mounted surgical and autopsy specimens displayed on transparent pyralin permitting study of both sides of the individual specimens; (1) congenital malformations of the urinary organs (urethral stricture, congenital valves of the posterior urethra, vesical exstrophy, ureteral stricture, congenital hydronephrosis, vascular obstruction of the ureter, abnormal ureteral insertion, polycystic renal disease, horseshoe kidney, etc.); (2) tumors—benign and malignant—of the adrenal kidney, ureter, bladder, prostate, penis, urethra, and testicle, together with unusual metastatic demonstrations; (3) calculous disease of the urinary tract; (4) infections of the urinary organs, tuberculous and nontuberculous; (5) a new mobile teaching cabinet containing specimens and colored photomicrographs of tissue, with a demountable viewing box for exhibition and study of urograms or other roentgenograms.

PERCY S. PELOUZE, Philadelphia, ROGER W. BARNES, Los Angeles, ANSON L. CLARK, Oklahoma City, OSCAR F. COX, Boston, ROGERS DEAKIN, St. Louis, and R. A. VONDERLEHR, U. S. Public Health Service, Washington:

Sulfanilamide in the Treatment of Gonorrhea in the Male: Exhibit of graphs and charts showing the comparative effectiveness of sulfanilamide in the treatment of gonorrhea in the male in terms of clinical and laboratory response.

ABRAHAM HYMAN and SEYMOUR F. WILHELM, Beth Israel Hospital, New York:

Plastic Operations on the Renal Pelvis and Ureter: Exhibit of transparencies illustrating the various types of plastic operations on the renal pelvis and upper part of the ureter; preoperative and postoperative pyelograms, demonstrating the early and late results of operations.

EMILY DUNNING BARRINGER, HYMAN STRAUSS, S. K. GREENBERG, E. A. HOROWITZ, B. H. SCHOOLNIK, D. F. CROWLEY, J. A. E. SASS, C. A. GAFFNEY, in collaboration with ARCHIBALD MCNEIL, Kingston Avenue Hospital, Department of Hospitals, New York:

Treatment of Gonorrhea in the Adult Female: A Study of the Comparative Value of Different Methods: Exhibit dealing with various methods of treatment; routine treatment, filtrates, massive doses of gonococcus vaccine; fever therapy; electrothermic treatment, diathermy, surgical treatment; sulfanilamide, sulfapyridine and allied products; advantages and disadvantages of each.

J. EASTMAN SHEEHAN, New York:

Plastic Operations: Exhibit of photographs and casts before and after operation; specimens connected with plastic repair; motion pictures.

WILLIAM L. F. FERBER, THOMAS A. MORRISSEY and JAMES R. LISA, New York:

Pelvic Infection in the Male: Exhibit of gross specimens and microscopic sections indicating infection of the male pelvic and perirenal structures; demonstrating the effect of these processes on the upper urinary tract; abstracts of clinical course and autopsy results; motion picture of the surgical procedures for the treatment of infection of the male adnexae.

CHARLES B. HUGGINS, PHILLIP CLARK and W. W. SCOTT, University of Chicago, Chicago:

Experimental Benign Hypertrophy of the Prostate in the Dog: Exhibit dealing with clinical observations on benign prostatic hypertrophy in man and an experimental study in old dogs; presentation of a physiologic method of study of the prostate in dogs over long periods of time; demonstrations of an experimental method of producing cystic prostatic hypertrophy and of methods which have induced shrinkage of spontaneous prostatic hypertrophy in dogs.

HENRY SANGREE, WILLIAM M. LEEMON and ADELAIDE CURTIS, University of Pennsylvania, Philadelphia:

Fertility in the Male, Surgical and Clinical Problems: Exhibit of statistics, charts, drawings, microscopic slides and photographs showing a summary of 400 cases of male fertility examinations; normal sperm under the high powered microscope; demonstration of an ombrédanne operation for hypospadias; motion pictures of epididymovasostomy and epispadic operations; models of those three operations shown on anatomic specimens; microscopic demonstration of sperm in normal and abnormal mediums; stained slides of abnormal sperm; causes of infertility shown as chronic prostatitis, syphilis and endocrine disorders.

WALTER I. BUCHERT, Danville, Pa.:

Air Pyelography: Exhibit showing the value of the air pyelogram in diagnosis and localization of renal stones, and consisting of a series of transparencies including a scout film of the kidney, air pyelograms and pyelograms with opaque media for each case; also specimen in operative cases.

B. C. CORBUS and B. C. CORBUS, Jr., Chicago:

Cutaneous Diagnosis of Neisserian Infection: Exhibit of moulages, photographs and slides showing the cutaneous allergic response in individuals infected with the gonococcus; the passive transfer (Praussnitz-Kustner) reaction; typical negative reaction with noninfected individuals.

WALTER M. KEARNS, Milwaukee:

Testicular Deficiency: Exhibit demonstrating by means of transparencies of photographs, colored charts, drawings, etc., the methods of treatment in various types of hypogonadism; causes, methods of examination and treatment of male infertility; an improved method of extraction and determination of androgens in the urine.

ARTHUR J. GREENBERGER, MONROE E. GREENBERGER and OSCAR AUERBACH, Sea View Hospital, Staten Island, N. Y.:

Genito-Urinary Tuberculosis: Exhibit of roentgenograms and pathologic specimens of genito-urinary tuberculosis.

Section on Dermatology and Syphilology

The representative to the Scientific Exhibit from the Section on Dermatology and Syphilology is Hamilton Montgomery, Rochester, Minn. In addition to the exhibits, motion pictures will be shown in an adjoining area.

REUBEN L. KAHN, Ann Arbor, Mich.:

Detection of False Positive Reactions in Serodiagnosis of Syphilis: Exhibit of charts illustrating basis of a test for the detection of false positive serologic reactions; detection of reactions in the absence of syphilis given by lower animals, leprosy, malaria and other pathologic cases; detection of reactions in syphilis; concept of two types of positive reactions—a syphilitic type and a general biologic type; differentiation of the two types of reactions by means of "verification test"; practical demonstrations with verification test of true and false positive serologic reactions.

EVERETT S. SANDERSON, ROBERT B. GREENBLATT and RICHARD TOPIN, Medical School, University of Georgia, Augusta:

The Newer Venereal Diseases: Exhibit of moulages, photographs and charts illustrating various clinical manifestations of lymphogranuloma venereum, granuloma inguinale, and chancroid in males and females.

A. BENSON CANNON and HAZEL BISHOP, New York:

Syphilitic Lesions and Other Lesions Resembling Syphilis: Exhibit of colored slides showing (1) primary syphilis differentiated from chancroid; (2) secondary syphilis differentiated as follows: condylomata lata (syphilitic) from condylomata accuminata; generalized lesions of secondary syphilis from psoriasis, pityriasis rosea, dermatitis medicamentosa, lichen planus; mucous patches from stomatitis due to contact irritant; (3) tertiary lesions showing gumma differentiated from ulcer and epithelioma (4) congenital syphilis showing Hutchinson's teeth differentiated from malformation due to nutritional disturbances.

DONALD M. PILLSBURY, NORMAN R. INGRAHAM JR. and HERMAN BEERMAN, Department of Dermatology and Syphilology, University of Pennsylvania, Philadelphia:

Roentgen and Serologic Diagnosis, Treatment Methods and Epidemiologic Control in Congenital Syphilis: Exhibit of roentgenograms of bone in congenital syphilis; standard treatment methods; oral treatment with acetarsone and sobisminol; charts showing incidence of congenital syphilis in relation to age of maternal infection, and treatment; social service follow-up and familial study.

RHODA W. BENHAM and EDWARD D. DELAMATER, Columbia University, New York:

Yeast-like Parasites of the Skin: Candida (Monilia), Cryptococcus, Pityrosporum: Exhibit of charts, photographs and cultures showing the diagnostic characteristics of the main species of the genus Candida (Monilia); cultures and photographs of the groups of Cryptococci; Pityrosporum ovale, the organism isolated from seborrheic lesions of the scalp described and illustrated with photographs of the organism as it appears in the scales and on cultures; cultures on various mediums.

HAROLD N. COLE, GERARD DEORIO, JAMES R. DRIVER, HERBERT JOHNSON and WALTER SCHWARTZ, Cleveland:

Use of Bismuth Salts to Control Course of Artificial Malaria: Exhibit showing the effect of various heavy metals, gold, mercury, arsenic, antimony and bismuth in controlling course of chills in artificial malaria used for the treatment of syphilis, with discussion and results. Advantages of thio-bismol.

LESLIE M. SMITH, El Paso, Texas:

Blastomycosis and the Blastomycosis-like Infections: Exhibit of charts, photographs, photomicrographs and drawings showing cultures of the more common organisms of this group and clinical photographs, together with the various blastomycosis-like mycoses briefly described and differentiated.

C. W. EMMONS, National Institute of Health, Washington, D. C., and HOWARD HAILEY and HUGH HAILEY, Atlanta, Ga.:

Chromoblastomycosis; Unusual Case with Early Diagnosis and Response to Therapy: Exhibit of photographs of the lesion and of the fungus which was the etiologic agent; photomicrographs of this strain and of strains isolated from other cases, illustrating the characteristic morphology of this fungus, Hormodendrum pedrosoi, and its relationship to the other etiologic agent of the disease, Phialophora verrucosa; cultures and microscopic preparations illustrating the fungus.

ALBERT STRICKLER, Philadelphia:

Cutaneous Malignant Growths: Exhibit of photographs illustrating results in cutaneous malignant growths obtainable through intravenous injection of irradiated colloidal lead phosphate; illustrations of the frequently good results obtainable through local injection of irradiated colloidal lead phosphate alone and in conjunction with irradiation.

LOUIS SCHWARTZ, National Institute of Health, Bethesda, Md., EDWARD A. OLIVER, Chicago, and LEON H. WARREN, National Institute of Health, Bethesda, Md.:

Occupational Leukoderma: Exhibit of photographs, charts, rubber gloves and chemicals, showing method of investigation of actual cases and chemical causing occupational leukoderma.

E. E. BARKSDALE, Danville, Va.:

Cutaneous Manifestation from Tobacco with Special Reference to Arsenical Exfoliative Dermatitis: Exhibit of an analysis showing that tobacco contains arsenic; presentation of cases with exfoliative dermatitis and high blood arsenic, showing improvement when patient refrains from using tobacco; a series of control cases.

GEORGE M. LEWIS and MARY E. HOPPER, New York:
Management of Chronic Dermatophytosis: Exhibit of charts, pictures and demonstrative material showing that this fungous disease, affecting the skin and nails, is common but is frequently either overlooked or not correctly diagnosed; causative micro-organism (Trichophyton purpureum) is not found in acute dermatophytosis; studies have delineated the disease syndrome and have correlated the variants of the causative fungus; public health aspect and the results of case finding; methods of treatment of this resistant mycosis.

F. T. BECKER, Duluth Clinic, Duluth, Minn.:
Milkers' Nodules: Exhibit showing illustrations of typical cases of milkers' nodules; case histories, pathology of various stages of the infection, diagnostic criteria and differential diagnosis.

LOUIS H. WINER, Minneapolis:
Pseudo-Epitheliomatous Hyperplasia: Exhibit of chart with outline, showing clinical and microscopic representations.

FRANCIS P. MCCARTHY, JAMES C. HEALY and FRANCIS H. DALEY, Tufts College Dental School, Boston:
Diseases of the Oral Cavity: Exhibit of transparencies, lantern slides and charts presenting a clinical and pathologic study; special group of cases of leukoplakia buccalis, showing clinical and pathologic gradations; the manifestation of bismuth therapy in the oral cavity; the allergic reactions of the gingivae, and the oral lesions associated with the blood dyscrasias, metabolic deficiency diseases and the eruptive lesions associated with the dermatoses.

MOTION PICTURES

The following motion pictures will be shown on a regular schedule in an area adjoining the exhibits of the Section on Dermatology and Syphilology:

J. L. CALLAWAY and N. F. CONANT, Durham, N. C.:
The Diagnosis and Management of Cutaneous Blastomycosis (Gilchrist's Disease).

J. G. DOWNING, Boston:
Dermatoses from External Causes.

A. E. SCHILLER, Detroit:
Lichen Planus.

L. A. BRUNSTING, Rochester, Minn:
Treatment of Psoriasis.

C. W. LAYMON, Minneapolis:
Cutaneous Neoplasms with Special Reference to Diagnosis.

A. B. CANNON, New York:
Technic Employed in the Treatment of Roentgen Ray Burns and Other Skin Disfigurements.

EXHIBIT SYMPOSIUM ON HEART DISEASE

The exhibit symposium on heart disease, including peripheral vascular disease, is presented in cooperation with the American Heart Association under the guidance of a committee composed of Thomas M. McMillan and Norman E. Freeman, Philadelphia.

MOTION PICTURES

The following motion pictures will be shown in an area adjoining the exhibits on heart disease:

CLAYTON J. LUNDY, Chicago:
The Normal Heart Beat Mechanism.
Extrasystoles—Six Types.
Paroxysmal Tachycardia—Six Types.
Auricular Fibrillation and Flutter.
Heart Block.
Arteriosclerotic Heart Disease.
Rheumatic Heart Disease.
Heart Murmurs in Rheumatic Heart Disease.

WILLIAM H. STEWART, H. C. MAIER and CHARLES W. BREIMER, Lenox Hill Hospital, New York:
Cine-Roentgenographic Studies of the Human Pulmonary Circulation, Heart Chambers and Greater Blood Vessels (Robb and Steinberg Method).

AMERICAN HEART ASSOCIATION, New York:
American Heart Association: Exhibit of educational and exhibit material including books, pamphlets, and leaflets on various phases of cardiovascular disease; photographs and life-size models of normal and abnormal hearts.

H. R. MILLER and L. VOSBURGH LYONS, New York:
Cardiac Innervation: Exhibit presenting a graphic visualization of the entire cardiac innervation; anatomic charts representing a progressive series and each drawing designed to carry a concept or anatomic structure absent in the immediate antecedent drawing; illustrations which are in relation to the bodily contour permitting easy recognition of every portion of the cardiac nerve supply in relation to other nearby structures and to the body as a whole; exhibit provides a basis for the study of the radiation and surgical treatment of cardiac pain.

HUGO ROESLER, Temple University Medical School, Philadelphia:
Radiology and Pathology of Heart Disease: Exhibit of roentgenograms, electrocardiograms and anatomic specimens, in form of transparencies, demonstrating a great variety of diseases of the heart and great vessels, each case presenting a correlated study of clinical, laboratory, electrocardiographic, radiologic and postmortem examinations.

SAMUEL BELLET, ALFRED KERSHBAUM, LEON SCHWARTZ and RICHARD H. MEADE JR., University of Pennsylvania and Philadelphia General Hospital, Philadelphia:
Effect of Tobacco Smoke and Nicotine on the Normal Hearts of Dogs and on the Myocardium Damaged by Coronary Artery Ligation: Exhibit of charts showing the results of experiments comparing the effects of tobacco smoke and nicotine on the electrocardiogram on normal dogs and in dogs with myocardial damage produced by coronary artery ligation. Electrocardiographic changes of nicotine are shown in the acute, subacute and chronic stages of myocardial infarction. The effects of nicotine on the blood pressure and electrocardiograms of normal and sympathectomized animals are compared. The pharmacology of nicotine is discussed.

O. F. HEDLEY, U. S. Public Health Service, Philadelphia:
Salient Public Health Features of Rheumatic Heart Disease: Charts showing the incidence of rheumatic heart disease in Philadelphia hospitals based on a study of 4,653 cases, involving 5,921 admissions; age, race and sex distribution of fatal and nonfatal cases; age of onset and other pertinent information; relative importance of rheumatic heart disease as a cause of death in Philadelphia as compared with other well known diseases; especially among persons under 20 years of age; geographic distribution and trends in mortality from heart disease (mostly rheumatic heart disease) among persons 5 to 25 years of age throughout the United States during the period of 1922-1929; cities with the highest mortality from heart disease; incidence of rheumatic heart disease among 100,000 college students; need for adequate physical examinations, because of the danger of overdiagnosis, especially in smaller colleges with inadequate student health services.

CHARLES L. CHRISTIERNIN, LOUIS I. DUBLIN and D. B. ARMSTRONG, Metropolitan Life Insurance Company, New York:
Basic Studies of the Aging Cardiovascular System: Exhibit presenting three related studies which are part of a broad approach to the problem of the aging cardiovascular system, based on a group of men and women engaged in office work: (1) physical survey of a group of office workers at age 40 with particular emphasis on the cardiovascular system, including data on medical history, important impairments, weight, blood pressure and certain electrocardiographic tracings; (2) analysis of serial electrocardiograms of 253 office workers who have attained age 40 and who have never presented any evidence of cardiovascular disease, actual or potential; (3) variability of certain electrocardiographic abnormalities on successive annual tracings of 1,882 office workers age 40 and over.

ARTHUR M. MASTER, RICHARD GUBNER, ARTHUR GRISHMAN, SIMON DACK and HARRY L. JAFFE, Cardiographic and X-Ray Laboratory, Mount Sinai Hospital, New York:
Fluoroscopic Diagnosis of Cardiac Infarction Following Coronary Artery Occlusion: Exhibit showing that fluoroscopy is a valuable adjunct in the study of patients with coronary

artery disease; localized abnormalities in left ventricular contraction observed fluoroscopically in 73 per cent of cases studied at intervals varying from four weeks to six years following an attack of coronary artery occlusion; various types of pulsation observed illustrated by tracings made directly from the fluoroscopic screen, by motion pictures of the heart during fluoroscopy, and by roentgenkymograms; records of normal subjects and of those with other types of heart disease shown for comparison.

J. Ross Veal and Hugh Hussey, Washington, D. C.:

Venous Pressure Studies in Cardiovascular and Peripheral Vascular Diseases: Exhibit of charts, drawings, photographs and motion pictures showing the methods of performing venous pressure studies; the clinical application; new "sensitive exercise test" for use in upper and lower extremities in recording venous pressure; its use in detecting local venous occlusion; differentiation between venous edema and edema due to other causes; the use and clinical application in cardiac failure, mediastinal tumors, constrictive pericarditis, obstruction of vena cava and local venous obstruction from thrombosis, etc.; venographs showing various types of venous obstruction in the upper extremity with collateral circulation.

Louis B. Laplace, Philadelphia:

Cardiovascular Disease in Advanced Years: Exhibit of charts and specimens illustrating the characteristics of cardiovascular disease in persons beyond the seventh decade of life; physiologic handicap imposed by arteriosclerosis and the compensatory influence of arterial dilatation and tortuosity; characteristics of the electrocardiogram; "compensated" coronary sclerosis and the infrequency of angina pectoris; nature of the common forms of cardiovascular insufficiency in advanced years.

William B. Kountz, John R. Smith and Arthur S. Gilson, St. Louis:

Heart Sounds and Cardiac Vibrations: Exhibit showing graphic studies of heart vibrations as recorded by a cathode ray tube; heart sounds consist of at least two components and possibly a third one—the contraction of the muscle, the valve sounds and the flow of blood through the heart; analyses of normal heart sounds demonstrate vibrations of different frequencies, varying from two cycles a second up to 300 cycles a second; clinical aspect presents normal heart sounds as well as pathologic ones (cases in which there is definitely disease of the heart), coordinated with the electrocardiogram establishing curves in relation to the normal cycle of events occurring in the heart; apparatus evaluating the various frequencies caused by contractions of the heart, under both normal and pathologic conditions, and showing that, in hypertension and degenerative diseases of the heart, there is usually a definite prolongation of the first heart sound, although in listening to the heart adventitious sounds may not be heard. In certain forms of cardiac disease, waves appear in the vibrocardiographic tracings which evidence suggests are reflections of abnormal cardiac movement, and which may indicate anoxemia of the myocardium when other evidences of heart disease are lacking.

John B. Schwedel, Jonas Weissberg and Vincent Silvestri, New York:

Trachea and Bronchi in Heart Disease: Exhibit of models, photographs and postmortem specimens, diagrams and descriptions showing the relationship of the trachea and bronchi to the heart in normal and abnormal states, with emphasis on the significance in various clinical states.

W. J. MacNeal, Martha Jane Spence and Marie Wassen, New York:

Experimental Endocarditis Induced by Intravenous Inoculation of Streptococcus Viridans: Exhibit of hearts and some other organs of rabbits showing gross lesions of the disease; photomicrographs showing the structure of the lesions; hearts of patients from whom cultures of Streptococcus viridans were obtained; apparent influence of various factors on the character of the lesions.

Bernard I. Kaplan, Sing Sing Prison Hospital, Ossining, and Bellevue Hospital, New York:

Clinical Stethography: Exhibit of posters containing actual and photographic reproductions of heart sound tracings obtained with the stethograph and with the electrocardiograph-stethograph, demonstrating the normal with its variations, sources of error, interpretation and records obtained in the presence of organic heart disease; posters describing the principles underlying the graphic recording of heart sounds with this instrument.

Sidney P. Schwartz, New York, and Abraham Jezer, Montefiore Hospital, Bronx, N. Y.:

Transient Ventricular Fibrillation: Exhibit of electrocardiograms showing the natural course of transient ventricular fibrillation in human beings during normal sinus rhythm, during transient auriculoventricular dissociation, and during established auriculoventricular dissociation; effects of epinephrine hydrochloride, digitalis bodies, quinidine sulfate, magnesium sulfate and rebreathing on such patients.

Joseph Harkavy, New York:

Vascular Allergy: Exhibit presenting a clinical study of tobacco allergy by means of cutaneous tests with various tobacco extracts in thrombo-angiitis obliterans, migrating phlebitis, peripheral vascular disease associated with arteriosclerosis, coronary artery disease and angina pectoris; demonstration of antibodies to tobacco; demonstration that biopsies of positive cutaneous reactions showed perivascular eosinophilia diagnostic of allergic responses; experimental studies of tobacco allergy with production of gangrene in toes of male rats by intraperitoneal injection of tobacco and demonstration of sensitization of rats to tobacco by means of the Shultz-Dale technic; paroxysmal tachycardia in patients due to food and tobacco allergy; electrocardiographic changes in bronchial asthma with recurrent pulmonary infiltrations, eosinophilic polyserositis with biopsy studies.

PERIPHERAL VASCULAR DISEASE

John B. Lagen, William J. Kerr, E. F. Cannon and Maurice Sokolow, University of California Hospital, San Francisco:

Postural Syndrome; Diagnosis and Treatment of Circulatory Failure Due to Obesity: Exhibit of wall charts and plaster models depicting the postural syndrome, showing the effects of excessive abdominal obesity on the cardiovascular system, and the therapy; syndrome outlined, showing how obesity, through mechanical factors, produces strain on the circulation and thus the various symptoms; diagrams showing normal and abnormal postures, and the consequent changes in the spinal curves, the position of the ribs and the diaphragm and heart and effects produced by these changes; therapy, including a specially designed belt which gives abdominal support without interfering with the respiratory motion of the diaphragm; silhouettes showing various patients before, during and after treatment.

M. C. Winternitz, E. Mylon, L. L. Waters, R. Katzenstein and L. Woodruff, Yale University School of Medicine, New Haven, Conn.:

Studies on the Pathology of Vascular Disease: Exhibit of lantern slides and artist's drawings of cardiovascular and smooth muscle lesions occurring in dogs after bilateral renal artery ligation, bilateral nephrectomy and injection of crude kidney extracts, bilateral nephrectomy and injection of fractionated and control tissue extracts; the prolonged injection of kidney extracts in normal dogs; method of production of these lesions and their occurrence in different sites summarized in chart form; concomitant blood chemistry and pertinent clinical data; charts on the chemical methods of fractionation; demonstration of the Friedman oscillometer as used for taking indirect blood pressures in laboratory animals.

Robert R. Linton, Surgical Laboratories of Harvard Medical School at the Massachusetts General Hospital, Boston, and Walter S. Rogers, Research Division, United Shoe Machinery Corporation, Beverly:

Thermostromuhr Method of Measuring Blood Flow and Its Application to Problems in Peripheral Blood Flow: Exhibit showing the construction of the apparatus; method in which it is used and calibrated, making it possible to determine the volume flow of blood in cubic centimeters passing through a blood vessel (artery or vein) at a given time; records and charts of experiments in peripheral blood flow, both experimental and in human beings.

IRVING S. WRIGHT, A. WILBUR DUBYEE and GERALD H. PRATT, New York:

Treatment of Peripheral Vascular Disease: (1) Lymphedema—medical and surgical treatment illustrated by motion pictures, diagrams and photographs. (2) Arteriosclerosis—method of determining claudication time with demonstration of apparatus used; charts and photographs showing the results of the use of deproteinated pancreatic extracts in the treatment of intermittent claudication (clinical and experimental).

HUGH MONTGOMERY, MEYER NAIDE and NORMAN E. FREEMAN, Peripheral Vascular Clinic, University of Pennsylvania, Philadelphia:

Diagnostic Procedures in Peripheral Arterial Disease: Exhibit of motion pictures illustrating standard tests used in diagnosing arterial disease and in evaluating extent of circulatory deficiency; charts showing significance of tests for prognosis and treatment.

MAE FRIEDLANDER, SAMUEL SILBERT and WILLIAM BIERMAN, New York:

Changes in Circulation of Skin and Muscles of the Extremities Following Various Procedures: Exhibit of charts illustrating the changes that take place in the temperature of the skin and muscle tissues of the extremities following sympathetic paralysis, spinal anesthesia, injections of epinephrine, hypertonic salt solution, pancreatic tissue extract and other drugs; charts illustrating that the regulation of the circulation is not parallel in the skin and muscle tissues.

DAVID I. ABRAHAMSON and FANNY A. SENIOR, May Institute for Medical Research, Jewish Hospital, Cincinnati:

Plethysmographic Method for the Study of Blood Flow and Vascular Responses in the Extremities: Exhibit presenting (*a*) demonstration of the plethysmographic method for the determination of blood flow in the hand, forearm, leg and foot, appropriate plethysmographs being used; two extremities studied simultaneously on a subject; curves indicating rate of blood flow and vascular responses to various stimuli recorded on a kymograph with Brodie's bellows; (*b*) graph and actual curves to show the differences in blood beds, supporting the concept that the nervous control of the blood vessels in the distal portions of an extremity (hand) is different from that in the proximal portion (forearm); (*c*) charts and curves demonstrating the response of the blood vessels in the extremities to such procedures as the administration of nicotinic acid, histamine, alcohol, insulin, epinephrine, smoking and general anesthetics; (*d*) curves exemplifying blood flow and vascular responses in such abnormal states as thrombo-angiitis obliterans, hypertension and scleroderma.

HENRY A. SCHROEDER, Hospital of the Rockefeller Institute, New York:

Classification of "Essential" Hypertension: Exhibit showing that in a series of 250 cases of so-called essential hypertension four types are recognized: renal, nervous, endocrine, and arteriosclerotic, which differ in history, symptoms and findings; characteristics of each type, and a statistical analysis of each group, especially as regards differentiating criteria; significant observations in thirty cases of mild, early arterial hypertension.

Section on Surgery, General and Abdominal

The Section on Surgery, General and Abdominal, in addition to its other exhibits, is presenting a group of exhibits on cancer. The representative from this section to the Scientific Exhibit is Grover C. Penberthy, Detroit.

FRANK H. LAHEY, Boston:

Thyroid Diseases: Exhibit showing skeletal changes in thyroid disease; blood cholesterol in thyroid disease; the larynx in thyroid surgery; orbital decompression for progressive exophthalmos; carcinoma of the thyroid; myxedema; heart disease in hyperthyroidism; hyperthyroidism and diabetes; blood iodine studies in thyroid disease; anesthesia in thyroid disease, showing intracheal intubation.

ARNOLD S. JACKSON, Madison, Wis.:

Goiter and Other Diseases of the Thyroid Gland: Exhibit of models and charts on diagnosis and treatment of cretins; maps and charts showing growth of cretinism and distribution of cases reported in the United States; illustrations showing technic of thyroidectomy by electrosurgery for exophthalmic goiter; illustrations and models of the various types of goiter, their distinguishing characteristics and the methods of treatment; illustrations, charts and data on hypothyroidism and myxedema illustrating typical and atypical cases, signs, symptoms, methods of treatment and results; motion pictures of cretins, diagnosis of various types of goiter and the technic of thyroidectomy.

WILLARD BARTLETT JR. and ROBERT W. BARTLETT, St. Louis:

Goiter: Exhibit of tables, charts and text presenting background, illustrations and clinical application of estimation of operative risk, breath-holding tests, blood amylase, continuous neutral bath, response of circulation to measured exertion, differential diagnosis from neurosis, fifteen year mortality study and abandonment of ligations; photographs, artist's drawings and text illustrating certain technical steps such as nerve block analgesia, combined anesthesia, lateral incision for two stage operation, pronounced tracheal distortion and sponge pressure dressing.

J. RUSSELL ELKINTON, MONROE T. GILMOUR and WILLIAM A. WOLFF, Pennsylvania Hospital, Philadelphia:

Control of Electrolyte and Water Balance in Surgical Patients: Exhibit of charts demonstrating the physiologic theory, methods, procedures and clinical results of a routine for controlling the serious problems of water and electrolyte balance that occur in surgical patients; routine based on a consideration of both electrolyte concentration, and changes in plasma volume as indicated by serial hematocrit values and plasma protein concentrations; methods and equipment simple enough for use in any clinic; results of the procedure shown by graphs from case histories of gastrointestinal drainage, infection, hemorrhage and severe burns.

THOMAS A. SHALLOW and KENNETH E. FRY, Philadelphia:

Results of Peritoneoscopic Examination: Exhibit of charts showing indications for peritoneoscopy with diagnostic accuracy and groups of cases suitable; photographs of lesions taken through the peritoneoscope; motion picture depicting the technic.

CHARLES S. WHITE, J. LLOYD COLLINS and JACOB WEINSTEIN, Washington, D. C.:

Evaluation of Stored Blood and Blood Serum: Exhibit of charts and photographs showing typing of blood by the centrifuge method; chemical and physical examination of stored blood; relative value of stored blood and blood serum with clinical follow-up; demonstration with a centrifuge.

NORMAN TREVES, Memorial Hospital, New York:

Significance of the Bleeding Nipple: Exhibit showing symptoms and physical changes, a moulage of the breast, a moulage of the appearance on transillumination, the gross and microscopic specimens and the treatment for the various lesions which produce a bloody discharge of the nipple; treatment in all instances is surgical.

R. K. GILCHRIST, Chicago:

Surgical Pathologic Studies of Carcinoma of the Rectum and Colon: Exhibit showing exact distribution of metastases among lymph nodes removed from surgical specimens of carcinoma of the rectum and colon as well as the manner of spread of the metastases through the lymph system; examples of metastasis in retrograde manner and the conditions which favor this; examples showing that where there is a double blood supply there is apt to be a double lymph drainage; correlation of grade and size of tumor and duration of symptoms to the presence of metastases; demonstrations of diverticula accompanying carcinomas and the complications resulting from them; cleared specimens showing the surgical anatomy of the large bowel and specimens and drawings showing the presence or absence of metastases outside the field of surgical resection.

LOUIS H. JORSTAD and BRUCE C. MARTIN, St. Louis:

Diagnosis and Treatment of Benign and Malignant Tumors of the Head and Neck: Exhibit of photographs, photomicrographs and legends showing (*a*) differential diagnosis and treatment of benign and malignant lesions of the soft tissues and osseous tissues of the head and neck; representative cases for

surgery, surface radium and interstitial radium are shown; (*b*) cosmetic and functional results obtained by reconstructive procedures (surgical and prosthetic); (*c*) resection of the lymph-bearing tissue of the neck, showing relationship of the particular zones of metastasis to the primary lesion and cosmetic and functional results.

GREGORY L. ROBILLARD, Brooklyn Cancer Institute, Kings County Hospital, ALFRED L. SHAPIRO and SIDNEY AUERBACH, Brooklyn:

Critical Evaluation of End Results in Routine Cancer Therapy: Exhibit of charts, photographs and gross specimens illustrating type incidence, modes of therapy and end results of cases; statistical correlation of this material, a cross section of an average tumor clinic, with cancer experience generally; analyses of major factors determining extent and type of treatment, reasons for failure and causes of death; total curability of cancers tending to early generalized metastasis as contrasted with localizing lesions characterized by slow local invasiveness and regional metastasis; potential life salvage; need for integrated programs of further clinical study and experimental investigation; limits of resectability in localizing malignant growths of neck, thorax, abdomen and pelvis.

LOUIS C. KRESS, Albany, N. Y.:

Cancer Control in New York State: Exhibit demonstrating the methods used for reporting cancer in New York State by the physician, pathological laboratory and the hospital with the reasons for reporting, establishment of tumor clinics throughout New York State in the general hospitals, operated and maintained by the staffs of these hospitals, portrayed by means of a map; organization of clinics described by means of statements and pictures; cancer program in New York State is to provide adequate care for the cancer patient, obtained through the staffs of the already existing general hospitals rather than in state owned institutions.

FRANK E. ADAIR and JOSEPH E. FARROW, Memorial Hospital, New York:

Breast Lesions: Exhibit of transparencies of photographs showing many of the different clinical types of breast cancer, not only in the gross but also in the microscopic appearance.

S. W. HARRINGTON, Mayo Clinic, Rochester, Minn.:

Carcinoma of the Breast: Exhibit presenting the different types of malignant conditions of the breast, carcinoma, Paget's epithelioma and sarcoma; different diagnostic, clinical and pathologic manifestations of the disease and the three, five, ten, fifteen and twenty year results of surgical treatment and the various factors which influence the prognosis such as the extent of the disease, grade of malignant condition and other constitutional diseases; different clinical manifestations of the disease, the operative treatment and results shown by moulages, photographs, drawings, statistics and motion pictures.

WILLIAM J. HOFFMAN, New York:

Treatment of Recurrent Cancer: Exhibit of transparencies illustrating procedures for treatment of recurrent and advanced carcinoma of the head and neck; plastic surgical operations for repair of defects; technic of radical dissection of cervical nodes; treatment of early and late radionecrosis following improper and accidental overdosage of radium and roentgen therapy.

A. H. BULBULIAN, Rochester, Minn.:

Improved Technic for Restoration of Facial Defects by Prosthesis with the Use of a Latex Compound: Exhibit shows results of restoration of facial defects, such as those resulting from the loss of the nose or an ear, by prosthesis. This type of restoration is recommended for cases in which correction by plastic surgery is not advisable owing to (1) local condition of the defect, (2) patient's general condition or age and (3) patient's financial circumstances which may prohibit hospitalization. It is of definite value to patients for psychologic as well as economic reasons. Demonstration of the steps of the technic of making such a restoration shown with actual material.

JAMES GRAHAM, Springfield, Ill.:

Treatment of Varicose Veins: Exhibit of models and transparencies illustrating the diagnostic methods employed in selecting the type of treatment; four classes of varicose veins used for therapeutic purposes; (1) varices of great saphenous vein with negative results with Trendelenburg test, (2) varices of great saphenous vein with singly positive results with Trendelenburg test, (3) varices of great saphenous vein and perforators with doubly positive results with Trendelenburg test, (4) varices of small saphenous; methods employed include the use of multiple local injections of sclerosing solutions and ligation of the saphenous vein at its origin combined with retrograde injection of the entire saphenous system through an inserted ureteral catheter.

HOWARD E. SNYDER, Winfield, Kan.:

Ambulatory Management of Fractures of the Lower Extremity: Exhibit consists of photographs of patients and their roentgenograms before, during and after treatment by an ambulatory method; fractures of the foot, ankle, leg and thigh are included; applied and unapplied models of a new type of walking iron; motion picture illustrating methods and results.

LEO M. ZIMMERMAN and HAROLD LAUFMAN, Chicago:

Evolution of Blood Transfusion: Exhibit of old books, historic transfusion apparatus, reproductions of contemporary illustrations, explanatory legends, models of transfusion operations and motion picture demonstration of blood testing and transfusion, showing panoramic review of the development of blood transfusion from its earliest beginning, its present status and a projection of its possible future growth.

E. S. GURDJIAN, Detroit:

Surgical Management and Surgical Pathology of Acute Head Injury; Problem of Fluid Intake, Sedatives and Narcotics: Exhibit showing the surgical management and the surgical pathology of acute head injury based on numerous operations and autopsies; management of depressed fractures, acute and chronic subdural hematoma, extradural hemorrhage, hydroma of the brain and operative treatment of some of the complications of head injury pictorially described; effect of isotonic fluids on the spinal fluid pressure in acute head injury; effect of morphine, phenobarbital sodium, sodium bromide, chloral hydrate, pentobarbital sodium and codeine sulfate on spinal fluid pressure in cases of acute head injury.

MAX THOREK, Cook County Hospital and American Hospital, Chicago:

Electrosurgical Obliteration of the Gallbladder: Exhibit showing the results of a study of electrosurgical obliteration of the gallbladder; in 15 and 25 per cent of patients dilated capillaries or bile ducts are found in the gallbladder bed; classic cholecystectomy opens these and leakage and other undesirable consequences result; to obviate these the posterior gallbladder wall is left in situ and is transformed by electrosurgery into a sterile, dry hyalized inert tissue tampon: the falciform ligament is superimposed over the narrow ridge of coagulated tissue resulting after its borders have been approximated; the total mortality is 0.5 per cent.

JAMES F. KELLY and D. ARNOLD DOWELL, Department of Radiology, Creighton University School of Medicine, Omaha:

Roentgen Treatment of Acute Peritonitis, Gas Gangrene, Surgical Mumps and Other Infections: Exhibit of clinical data showing the value of the roentgen ray in acute inflammations with special emphasis on the diseases or complications which are a common source of worry for the surgeon and often fatal for the patient; lowered mortality and morbidity are marked while total radiation used is well below an erythema effect and the use of the roentgen ray adds no additional hazards for the patient or puzzling reactions for the clinician.

BERNHARD STEINBERG, Department for Medical Research, Toledo Hospital, Toledo, Ohio:

Peritoneal Exudate—A Guide for Diagnosis, Prognosis and Treatment: Exhibit showing that various peritoneal conditions may be recognized by the appearance of the various elements in the exudate; treatment may be guided by the successive peritoneal pictures; quantitative relationship between the cellular elements and the micro-organisms determines the prognosis;

inflammatory conditions differentiated from noninflammatory; inflammation of the upper part of the abdomen may be recognized and separated from those of the lower abdominal cavity.

THOMAS J. O'KANE and FREDERICK W. WILLIAMS, New York:

Lesions of the Lower Extremities in Diabetes: Exhibit of charts of results in nine years' work; pathologic studies of vessels; bacteriologic studies of infections; motion picture of the surgical technic used in amputations in diabetic extremity disease; rationalization of the confused clinical concept "diabetic gangrene" by applying the knowledge of peripheral vascular disease and infection; lesions of the lower extremities in diabetes classified clinically, without the use of mechanical instrumentation.

CARL L. HOAG, JOHN B. SAUNDERS, HAROLD H. LINDNER and JOHN M. MOORE, Department of Surgery and Anatomy, University of California Medical School, San Francisco:

Jejunoplasty for Obstruction Following Gastro-Enterostomy or Gastric Resection: Exhibit of transparent specimens, charts, drawings and photomicrographs illustrating the technic and indication for jejunoplasty, together with specimens showing the migration and effect of absorbable and nonabsorbable sutures in the anastomosis; transparencies illustrating the circulation in relation to such anastomoses.

ROY ERNEST BRACKIN, Kenilworth, Ill.:

Studies on the Transplantation of the Ureter to the Rectosigmoid: Experimental and Clinical: Exhibit showing the results, in the experimental animal and in patients, of a new method of transplantation of the ureter to the colon, incorporating peritoneum for the first time and without dissection of the periureteral tissues; advantages of the changes in technic which simplify the procedure depicted by photographs, photomicrographs and gross specimens of uretero-intestinal openings, kidneys, ureters and bladders, roentgenograms of injected specimens and intravenous pyelograms; steps in the development of the method outlined in photographs and charts of typical, controlled experiments; mechanism of the development of ureteral stricture, urinary stasis, hydronephrosis and renal sepsis.

ARTHUR H. BLAKEMORE and BARRY G. KING, New York:

Electrothermic Coagulation of Aortic Aneurysms: Exhibit showing that there is abundant evidence that a completely clotted saccular aneurysm neither ruptures nor grows and that induction of clotting in aneurysms is dependent on two factors: (1) the velocity of blood flow through the aneurysm, which may vary as much as 300 per cent in aneurysms of similar size but having openings of different size; (2) the presence of an adequate clot stimulating surface; exhibit presents a method of wiring aneurysms in which the velocity of blood flow is used as an index of the amount of wire necessary to impede the velocity of blood flow to a point at which mass clotting is known to take place; heating the wire within an aneurysm to 80 C. results in the deposit of a protein coagulum on the wire, thus affording an excellent clot stimulating surface; heating the wire causes inflammation in the sac wall which promotes adherence and organization of the clot deposited.

FRANK L. MELENEY and ELIZABETH SPOFFORD, New York:

Chronic Undermining Burrowing Ulcers and Progressive Bacterial Synergistic Gangrene Before and After Treatment with Zinc Peroxide: Exhibit illustrating the three types of chronic undermining burrowing ulcer: the postoperative group, the lymphatic gland group and the secondary contamination group; lesions shown as they were on admission to the hospital and again when the ulceration had completely healed. Progressive bacterial synergistic gangrene illustrated by a model of an extensive lesion of the chest wall as it appeared on admission to the hospital and after complete healing; same type of lesion shown by a model of the excised lesion occurring on the abdominal wall. Photographs illustrate the various stages in the progress of healing.

AMERICAN MEDICAL ASSOCIATION, Chicago:

Archives of Surgery: Exhibit presenting the outstanding points of merit of the ARCHIVES OF SURGERY.

Section on Obstetrics and Gynecology

The representative to the Scientific Exhibit from the Section on Obstetrics and Gynecology is H. Close Hesseltine, Chicago.

HENRY C. FALK, New York:

Conservative Treatment of Recurrent Salpingitis—Tubal Resection: Exhibit of drawings and enlarged photomicrographs showing the path of the infecting organisms in salpingitis, the pathology of the infected tube, the technic of tubal resection and how it prevents reinfection, with a résumé of the results in cases treated by this method.

ROBERT T. FRANK, MORRIS A. GOLDBERGER, GERTRUDE FELSHIN and EMANUEL KLEMPNER, New York:

Sex Hormones, Research and Clinical Application: Exhibit showing the technic of bio-assay in blood and urine of sex hormones, including gonadotropic, estrogens, progesterone and androgens; graphic presentation of results obtained in normal cases, amenorrhea, sterility, menopause, menorrhagia and metrorrhagia, premenstrual tension, premature puberty, adrenocortical syndrome, pseudohermaphroditism, hirsutes and alopecia; various endocrine cases studied because of their general interest, including pituitary tumors, Simmond's disease, Addison's disease, parathyroid (overfunction and underfunction), etc.; results of treatment of various conditions.

E. D. PLASS and RAY E. TRUSSELL, University Hospital, Iowa City:

Trichomonas Vaginalis: Pathogenicity and Physiology of a Pure Culture: Exhibit showing a pure culture of Trichomonas vaginalis, which has been maintained since June 1939; results of experimental inoculations of human and animal vaginas; physiology of the protozoon, with relation to the *p*H and medium components best suited to optimum growth, the utilization of carbohydrates, etc.

NORMAN F. MILLER and ALLAN C. BARNES, University of Michigan Hospital, Ann Arbor:

Partial Urinary Incontinence in the Female: Study of Its Cause and Treatment: Exhibit presenting an investigation of the fundamental principles involved in the problem of diurnal urinary incontinence in women; demonstration of the anatomy, pathologic physiology and proper diagnosis of the condition, with a review of the surgical procedures available for its correction.

NICHOLAS M. ALTER, Margaret Hague Maternity Hospital, Jersey City, N. J.:

Hydatidiform Mole and Chorionepithelioma (Pathogenesis): Exhibit of transparencies, illustrations, charts and specimens showing the hydatidiform mole and chorionepithelioma.

F. H. FALLS, University of Illinois, and CHARLOTTE S. HOLT, Illinois State Department of Public Health, Chicago:

Ectopic Pregnancy: Exhibit of series of bas relief models depicting various types of ectopic pregnancy, such as interstitial, ovarian, isthmic, ampullary and secondary abdominal, a colpocentesis of a pelvic hematocele, broad ligament hematoma, a fibroid uterus causing compression of the tube and a bilateral tubal pregnancy; a model showing the story of normal fertilization and nidation and sites of ectopic implantation, water color illustrations of views of the aforementioned types of ectopic pregnancy as seen at operation by the surgeon; charts outlining etiology, diagnosis, treatment and mortality statistics; transparencies of photomicrographs of each type and roentgenogram of a ruptured interstitial ectopic pregnancy with a baby weighing 5 pounds (2,268 Gm.).

CHARLES A. GORDON, Brooklyn:

Committee on Maternal Welfare of the Medical Society of the State of New York: Exhibit of charts showing character and progress of maternal welfare work in the county medical societies of the state; printed material for distribution.

S. H. GEIST, U. J. SALMON and R. I. WALTER, New York:

Studies in the Implantation of Synthetic Ovarian (Estrogenic) Hormone in the Treatment of the Menopause Syndrome: Exhibit of charts and photomicrographs depicting the stimulating effect of the implanted hormone on the uterus and vagina at varying intervals after the implantation and the correlation of these morphologic changes with the inhibitory effect

of the hormone on the pituitary (as measured by excretion of the gonadotropic hormone) and amelioration of the symptoms; results in a group of surgical castrates that had prophylactic implantation at the time of bilateral oophorectomy, demonstrating the ability of the implanted hormone in preventing the involutional changes in the vagina and the abnormal excretion of gonadotropic hormone and, concomitantly, the menopause symptoms from developing; rate of absorption; duration of effectiveness of the implanted hormone; comparative study of the relative effects of the crystals as opposed to the pellets; histologic study of the excised tissues surrounding the implanted hormone to determine whether any abnormal proliferation occurred locally.

A. C. IVY, D. N. DANFORTH and R. J. GRAHAM, Chicago:

Birth Process Revealed by Frozen Sections of Macacus Rhesus: Exhibit of mounted specimens of frozen sections of monkeys made during the various stages of labor and during the puerperium; drawings of the respective specimens with dimensions and protocols; sections showing clearly the dilatation of the cervix, formation of the uterovaginal canal, retraction of the cervix, the lower and upper uterine segments, metrostatic adjustments of the uterine wall and involution of the uterus; the results of microscopic studies.

I. C. RUBIN, New York:

Uterotubal Insufflation: Exhibit of illustrations, roentgenograms, charts, insufflation apparatus, motion pictures and statistical figures to give a comprehensive idea of the scope of uterotubal insufflation.

Section on Pediatrics

The representative to the Scientific Exhibit from the Section on Pediatrics is Arthur F. Abt, Chicago. In addition to other exhibits, the section is presenting an exhibit symposium on nutrition.

WILLIAM FIFTH WELLS, University of Pennsylvania School of Medicine, and MAX B. LURIE, Henry Phipps Institute, Philadelphia:

Experimental Air-Borne Disease: Exhibit demonstrating an apparatus for the study of experimental air-borne disease and natural, quantitative, respiratory contagion of tuberculosis; quantitative features of utmost importance in studies of experimental pathology have been proved for the apparatus; penetration of droplet nuclei to all the lobes establishes this quantitative method of lung inoculation; exhibit demonstrates quantitative relationship between dosage and pathologic manifestation of tuberculosis and destruction of tubercle bacilli in air by ultraviolet light together with quantitative technic of experimentation.

F. M. POTTENGER JR. and D. G. SIMONSEN, Pottenger Sanatorium, Monrovia, Calif.:

Asthma—Experimental Consideration: Exhibit of charts, roentgenograms and photographs of cats showing the clinical symptomology of an allergic like nature, including asthma, produced experimentally by heat-treatment of the food, and compared with normal animals on a diet that is not heat treated; roentgenograms, photographs and charts of children suffering from asthma showing a similar change from normal standards; motion pictures and slides showing the details of soft tissues and functional changes in cats, with comparison of the normal and abnormal cats as noted by their actions in the pens.

IRVING J. WOLMAN, Children's Hospital, Philadelphia:

Infant Feeding and the Curd Tension of Milk; Clinical and Laboratory Data: Exhibit of laboratory apparatus, charts, illuminated boxes and displays of milk curds illustrating theoretical considerations on coagulation of cow's milk within the human stomach, significance of the curd tension test and in vitro methods for evaluating digestibility of dairy modified milks; investigations on homogenized milk with definitions, clinical data from large scale studies on infant feeding, description of processes used (sound wave oscillator, mechanical homogenization) and new methods of laboratory control.

ABRAHAM LEVINSON, Chicago:

Cerebral Manifestations in the Newborn: Exhibit of charts, lantern slides and specimens outlining the etiology, symptomatology and treatment of cerebral manifestations of the newborn. The following conditions are included: anoxemia, cerebral edema, cerebral hemorrhage, cerebral agenesis, acute infections, tetany and hypoglycemia.

J. HARRY MURPHY, Omaha:

Comparative Epidemiology of Encephalitis and Poliomyelitis (Note—These are Equine Encephalomyelitis and Acute Anterior Poliomyelitis): Exhibit of spot maps showing occurrence of equine encephalomyelitis in counties adjacent to Omaha in 1937, 1938 and 1939 and of occurrence of cases of acute anterior poliomyelitis in Omaha and counties in 1923 to 1939; maps superimposed, representing a topographic analysis of the terrain of Omaha and immediately adjacent areas; comparison indicates common points of epidemiology of the two diseases.

THEODORE O. ELTERICH, Pittsburgh:

Stunted Growth in Childhood; An Inquiry into Some of Its Causes: Exhibit of photography, roentgenograms and case histories illustrating conditions causing pronounced stunting in the growth of children; review of the nonendocrine as well as of the endocrine causes of this manifestation; information on congenital heart disease, prematurity, Banti's disease, congenital hemolytic anemias, etc., which may cause a failure of the child to develop properly.

PHILIP M. STIMSON, New York:

Pulmonary Tuberculosis, Primary and Secondary Infections, from Onset to Cure: Exhibit of roentgenograms covering the life of a boy from 7 to 16 years, showing first a localized pleurisy, then in succession a Ghon tubercle near the right base, some hilar adenitis, a faint infiltration at the left apex, cavity formation, filling in of the cavity and an apparent return to normal conditions with disappearance of both the Ghon tubercle and the cavity.

HAROLD W. DARGEON, Memorial Hospital, New York:

Cancer in Childhood: Exhibit of charts showing topographic distribution of childhood cancer; mortality, compared with other children's diseases; photographs of the more common varieties of malignant tumors with legends discussing diagnosis, treatment and prognosis; pathologic specimens of more common types of childhood cancer.

F. W. SCHLUTZ and ELIZABETH M. KNOTT, Bobs Roberts Memorial Hospital, The University of Chicago, Chicago:

Vitamin B: Exhibit of graphs illustrating factors affecting the thiamin requirements in children; (1) vitamin B_1 balance studies on infants and children; (2) case studies of specific types of persons with differing needs for the vitamin; (3) group studies of the effect of the vitamin on appetite and on growth; (4) investigation of the vitamin B_1 content of milk (pasteurized, evaporated and breast), of infant formulas, of representative diets for young children and of suitable thiamin supplements. An exhibit of young rats showing how various factors can affect the thiamin requirement of children.

SMITH FREEMAN and WILLIE MAE CLIFTON, Chicago:

Vitamin D, Calcium and Phosphorus Metabolism: Exhibit of roentgenograms showing the radiologic changes which occur in the bones of children with active and healing rickets, renal rickets, hyperparathyroidism, osteopetrosis, celiac disease, fragilitas ossium, poliomyelitis and rheumatoid arthritis; photomicrographs illustrating the histologic changes characteristic of some of the conditions mentioned; charts presenting blood and excretory findings on the calcium, phosphorus and phosphates of some of the conditions mentioned and the normal requirements of vitamin D, calcium and phosphorus; results of experimental studies showing the effect of gastrectomy and the effect of a low phosphorus diet on the bones of puppies.

NUTRITION OF CHILDREN

JOHN B. LUDDEN and ELIZABETH MACLENATHEN, Department of Medicine, New York Postgraduate Medical School and Hospital, New York:

Vitamin C Deficiency: Diagnostic Methods and Therapy: Exhibit of charts and photographs illustrating the requirements of vitamin C; conditions predisposing to deficiency; diagnostic

methods, including the capillary fragility tests, determination of ascorbic acid in blood plasma and urine, and saturation tests; effect of renal retention on saturation tests with a formula for compensation of this factor of error; influence of vitamin C therapy on blood level, saturation tests and clinical picture of certain gastrointestinal and vascular disorders.

ICIE MACY-HOOBLER, Detroit:

Chemistry of Growth and Nutrition in Childhood: Exhibit of charts and transparencies showing the environment of investigations of the mineral metabolism of twenty-two normal children; data upon their growth, blood chemistry, nutritional state, metabolism of twelve inorganic elements and six organic compounds, skeletal development, gastrointestinal motility, and other physiologic observations, illustrated with charts showing accumulation of nitrogen and mineral elements by one subject during 100 days at age 4, 225 days at age 8, and fifty days at age 12.

W. W. WADDELL JR., DUPONT GUERRY III, and MCLEMORE BIRDSONG, University of Virginia Hospital, Charlottesville, Va.:

Role of Vitamin K in the Etiology, Prevention and Treatment of Hypoprothrombinemia and Hemorrhage in the Newborn: Exhibit of charts demonstrating the role of vitamin K in the etiology, prevention and treatment of hypoprothrombinemia and hemorrhage in the newborn.

DOROTHY H. ANDERSEN, HILDA BRUCH, ALFRED FISCHER, MURRAY B. GORDON, JOSEPHINE KENYON, BELA SCHICK, WILLIAM SCHONFELD, ABRAHAM B. SUSMAN, ANNE TOPPER and RICHARD WAGNER, Columbia University, Long Island Medical College, Mount Sinai Hospital, New York, and Deaconess Hospital, Boston:

Endocrines in Relation to Nutrition: Exhibit showing data on thyroid deficiency and pituitary disturbances and charts; data on the use of the growth hormone and a special nutrition chart; work on pathologic studies of the pancreas in condition simulating celiac disease; data to illustrate the endocrine basis of obesity in children; cases illustrating weight loss in children on an endocrine basis; data showing that if diabetic pregnant women are treated with estrogenic substances the newborn mortality is much lower than among untreated women; graphs showing the growth of diabetic children, studies of puberty in males.

CHILDREN'S BUREAU, Washington, D. C.:

Nutrition in Relation to Growth and Development of Children: Exhibit of roentgenograms compared with histologic sections of bones from cooperative studies on the diagnosis of rickets and scurvy being made at Johns Hopkins Hospital by the Pediatrics Department and the Children's Bureau, U. S. Department of Labor; vitamin C deficiency among school children in northern Maine, from studies of the Maine State Health Department and Agriculture College of State of Maine and the Children's Bureau U. S. Department of Labor; relation of physical status of school children to their home environment, from studies by Yale University, Institute of Human Relations, and the Department of Pediatrics of the Medical College, New Haven Board of Education, and the Children's Bureau, U. S. Department of Labor.

Section on Laryngology, Otology and Rhinology

The representative to the Scientific Exhibit from the Section on Laryngology, Otology and Rhinology is Daniel S. Cunning, New York.

SAMUEL COHEN, Philadelphia:

Plastic Surgery of the Nose: Exhibit of casts, pictures, explanatory charts and motion pictures showing plastic surgery of the nose in various stages.

C. R. STRAATSMA, New York:

Plastic Surgery: Exhibit consists of photographs and casts depicting various plastic procedures and end results.

ANDREW A. EGGSTON, GEORGE J. RIGHTER and ROBERT L. FELDMAN, New York:

Petrositis, Nasal Sinusitis and Laryngeal Carcinoma: Exhibit showing model of human temporal bone; serial sections (microscopic) of larynx, petrous portion of temporal bone and eye; carcinoma of larynx (gross specimens); photomicrographs showing pathologic changes of nasal sinusitis.

MARVIN F. JONES, New York:

Preparation of Temporal Bones for Pathologic Examination: Exhibit presenting the technic of preparing bones for pathologic examination; microscopes and microprojector for demonstration of specimens.

G. ALLEN ROBINSON, New York:

Tumors of the Head and Neck: Exhibit showing various types of neoplasms of the head and neck and indicating the method of treatment, such as surgery alone, irradiation alone, and a combination of irradiation and surgery (carcinoma of the nasal sinuses); technic and dosage of radium and roentgen ray therapy.

CHEVALIER L. JACKSON and FRANK W. KONZELMANN, Philadelphia:

Cancer of the Larynx; Diagnosis and Treatment: Exhibit of models of the head and neck into which may be inserted the laryngeal mirror and the direct laryngoscope, in order to demonstrate and contrast with each other, indirect and direct laryngoscopy with particular reference to early diagnosis; moulages illustrating operative technics; specimens and photographs in color illustrating the gross and microscopic pathologic changes of cancer of the larynx; demonstration of preparation and histologic study of biopsy material; motion pictures in color illustrating diagnosis and treatment.

COUNCIL ON PHYSICAL THERAPY, AMERICAN MEDICAL ASSOCIATION, Chicago:

Audiometers and Hearing Aids: Exhibit demonstrating the component parts and the function of audiometers and hearing aids.

Section on Preventive and Industrial Medicine and Public Health

The representative to the Scientific Exhibit from the Section on Preventive and Industrial Medicine and Public Health is Paul A. Davis, Akron, Ohio.

O. J. F'3NESS, Desert Sanatorium, Tucson, Ariz., and MILDRED T. WOOLLEY, Charleston, W. Va.:

Coccidioidomycosis, Some Clinical and Epidemiologic Aspects: Exhibit of charts showing clinical picture, laboratory and diagnostic features; bacteriologic cycle of Coccidioides immitis; incidence of positive cutaneous reactors in various regions of the country; selected case records with photographs of roentgenograms to demonstrate typical lesions of the lung; autopsy specimens showing typical lesions and resemblance to tuberculosis; guinea pigs mounted in specimen jars to show distribution of coccidioidal lesions and method of diagnosis by inoculation.

CARL F. JORDAN, Iowa State Department of Health, Des Moines, E. F. WALLER and G. O. HENDRICKSON, Iowa State College, Ames, Iowa:

Tularemia: Exhibit presenting information pertaining to the occurrence of tularemia in the various states during the past decade; species of animals that serve as sources of infection, and a habitat group; pathologic specimens from susceptible animals and ectoparasites regarded as playing a part in the spread of infection among animals; charts presenting epidemiology, including the usual methods of transmission of infection from animals to man.

M. BERNARD BRAHDY, S. WERLIN and MAURICE LENARSKY, Willard Parker Hospital, New York:

Rapid Methods for the Diagnosis of Diphtheria: Exhibit describing the method and giving results obtained with the swabbing of the membrane with potassium tellurite according to the Manzullo technic; comparison of the tellurite results with four hour rapid cultures and Loeffler cultures in diphtheria cases and controls; photomicrographs from stained smears of four hour cultures and Loeffler cultures illustrating less contamination in the rapid method and morphologic characteristics of the bacilli; charts showing importance of rolling the swab in making slide preparations; culture tubes for rapid (four hour) method.

JOHN R. PAUL and JAMES D. TRASK, Yale University School of Medicine, New Haven, Conn:

Rural Epidemic of Poliomyelitis; Clinical and Geographic Features: Exhibit illustrating methods of detecting the virus in human stools and in urban sewage; the application of these newer tests in studies on the clinical epidemiology of poliomyelitis during an outbreak which occurred in southeastern Connecticut in the summer of 1939, with a picture and map showing the site where the epidemic started, and where it subsequently spread.

L. S. YLVISAKER, C. E. KIESSLING and H. B. KIRKLAND, Prudential Insurance Company, Newark, N. J.:

Acute Respiratory Infections: Exhibit showing that these have grave potentialities, including pneumonia, in the prevention of which little has been accomplished, although diagnosis and therapy have been revolutionized. Roentgenograms illustrate this complication in so-called ordinary colds and emphasize the necessity of closer observation during and after recovery.

JESSE G. M. BULLOWA, VERA DOLGOPOL, HAROLD HOBART, IRVING F. KLEIN, JEROME L. KOHN, LUCY MISHULOW, HERSCHEL J. RUBIN and MANFRED WEICHSEL, Willard Parker Hospital, New York:

Recent Studies in Pertussis—Diagnosis, Immunity, Pathology and Treatment: Exhibit describing a mouse protection test that can be readily utilized to test for protective antibodies on serum of patients with pertussis and those immunized against pertussis; pathologic complications in pertussis with a special study of pertussis encephalopathy and of the respiratory tract; studies on new cutaneous tests using a special antigen; complement fixation studies; results of various modes of treatment of both uncomplicated pertussis and pertussis complicated with pneumonia with various antigens, specific pneumococcus serums, sulfapyridine and pertussis convalescent serums; value of oxygen therapy and frequent transfusions in the treatment of pertussis pneumonia.

W. H. WRIGHT, National Institute of Health, Washington, D. C.:

Public Health Aspects of Trichinosis: Exhibit of pictorial and graphic information concerning the life cycle of the trichina parasite, Trichinella spiralis, its mode of transmission, the chief sources of infection in swine, incidence of the parasite in man, distribution of cases of clinical trichinosis, symptomatology and differential diagnosis and methods advocated for the control of the disease; demonstrations showing trichina larvae in muscle and methods of isolating living larvae by artificial digestion of muscle and recovery in the Baermann apparatus.

WILLIAM M. KINNEY, Jasper County Tuberculosis Hospital, Webb City, Mo.:

Sources of Error in Diagnosing Silicosis: Exhibit of chest roentgenograms together with photographs of postmortem specimens of lungs of hard rock miners showing the difficulties encountered in making the differential diagnosis between uncomplicated silicosis, silicotuberculosis and pulmonary tuberculosis without silicosis in these men.

R. R. SAYERS, Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, Washington, D. C.:

Industrial Absenteeism Recording: Exhibit showing a graphic representation of a proposed plan for industrial absenteeism recording; graphic presentation of industrial morbidity experiences.

CHARLES WALTER CLARKE, American Social Hygiene Association, New York:

Control of Gonococcic Infections: Exhibit presenting new scientific and administrative facts and points of view regarding the epidemiology, diagnosis, treatment and control of gonococcic infections; program of public health measures for combating gonorrhea.

COUNCIL ON INDUSTRIAL HEALTH, American Medical Association, Chicago.

Silicosis: Exhibit of charts, transparencies and specimens showing the causes, prevalence, pathology and prevention of silicosis.

Section on Gastro-Enterology and Proctology

The representative to the Scientific Exhibit from the Section on Gastro-Enterology and Proctology is Sara M. Jordan, Boston.

MOSES EINHORN, Bronx Hospital, New York:

Proctosigmoidoscope and Simultaneous Gastrointestinal Aspirator: Exhibit showing a proctosigmoidoscope with a review of the American contribution to the development of the instrument (1895-1940); and a simultaneous gastrointestinal aspirator, with a review of its use in gastro-enterology and postoperative abdominal surgery.

MATTHEW WALZER, IRVING GRAY, MAX HARTEN, DAVID M. GRAYZEL, SAUL F. LIVINGSTON and JOSEPH H. FRIES, Jewish Hospital, Brooklyn:

Allergy of the Abdominal Organs (Experimental Studies in the Human Being and in the Rhesus Monkey): Exhibit of charts, photographs, photomicrographs and motion pictures indicating the experimental technic used in the production of allergic reactions in passively sensitized mucous membranes of the ileum, colon and rectum of human beings; with an essentially similar technic an allergic reaction has been produced in the various organs of the rhesus monkey, e. g., stomach, gallbladder, intestine and peritoneum; histologic studies; radiologic studies of the gastrointestinal tract of human beings during the induced allergic reactions.

JEROME M. LYNCH and G. JOHNSON HAMILTON, New York:

Cancer of the Rectum and Sigmoid: Exhibit of charts, drawings, transparencies and motion pictures showing cases of carcinoma of the rectum and sigmoid used as a basis for determining the common sites of metastasis and the paths by which they spread; an operation described which plans to remove not only the primary growth but the tissues which are the common sites of recurrence as far as they can be surgically attacked.

HARRY E. BACON, Philadelphia:

Anorectal Operative Procedures with Special Reference to the Avoidance of Pain: Exhibit of photographs, moulages and colored motion pictures showing a series of operative procedures for hemorrhoids, mucous prolapse, fissure and fistula with the exact technic for each procedure, with means by which pain is diminished.

MANFRED KRAEMER, Newark, N. J.:

Peptic Ulcer Therapy (Studies with a New Antacid—Magnesium Trisilicate): Exhibit of charts showing advantages and disadvantages of antacids usually employed in treatment of peptic ulcer; samples of various antacids showing relationship of weight to volume; neutralization and absorption curves for magnesium trisilicate and other magnesium silicates; outline of management of peptic ulcer patient using magnesium trisilicate; summary of clinical study on patients; photographic reproductions of roentgenograms showing changes in peptic ulcer under therapy.

RUSSELL S. BOLES, H. E. RIGGS and J. O. GRIFFITHS, Philadelphia:

Circulatory Factors in Production of Peptic Ulcer: Exhibit of transparencies of photomicrographs demonstrating various states in formation of acute focal lesions of the stomach; charts demonstrating etiology of acute lesions of gastric mucosa; graphs showing ratio of involvement of brain, liver and kidney in acute lesions of gastric mucosa.

DAVID J. SANDWEISS, M. H. F. FRIEDMAN, H. C. SALTZSTEIN and A. A. FARBMAN, Detroit:

Protective Factors in Normal Urine Against Peptic Ulcer: Exhibit of photomicrographs of healing ulcers in Mann-Williamson dogs treated with extracts of urine from normal nonpregnant women; charts showing the inhibitory effects of urine extract on gastric secretion and gastric motility in dogs; demonstration of a method for the bio-assay of the gastric secretory depressant; charts showing the effect of urine extract on secretions other than those from the stomach; data on the effect of urine extract on other functions of the body; charts showing the effect of urine extracts on gastric secretion of healthy persons and of peptic ulcer patients; preliminary observations on the immediate clinical effect of urine extract on sixty ulcer patients.

WILLIAM A. SWALM and LESTER M. MORRISON, Philadelphia:

Chronic Gastritis: Exhibit presenting (1) diagnosis: clinical features, gastroscopy, roentgenology and gastric analysis; (2) pathogenesis: relationship to gastric ulcer (surgical and pathologic illustrations), relationship to gastric cancer and relationship to anemias; (3) correlation: gastroscopic study and pathologic and histologic examination; (4) treatment: systemic, dietary, medicinal, physical therapy and special.

ALLAN L. COHN, ALFRED WHITE and RUBIN GOLD, San Francisco:

Gastroscopic Studies: Exhibit demonstrating the clinical value of gastroscopy with the flexible (Schindler) gastroscope; cases of gastric pathology as viewed through gastroscopes; gastroscopic views made of plastic material showing pathologic changes; complete studies consisting of roentgenograms, colored drawings of resected stomachs, photomicrographs and colored gastroscopic views; subjects presented are early diagnosis of cancer, differential diagnosis of benign and carcinomatous ulcer, several types of gastritis, granuloma of the stomach and phytobezoar.

ZACHARIAS BERCOVITZ and M. CHRISTENSEN, New York:

Differential Diagnosis of Colitis: (a) Cellular Exudate Studies of Bowel Discharges (b) Colored Photographs Through the Sigmoidoscope: Exhibit demonstrating the method of examination of specimens of bowel discharges for cellular exudates with Loeffler's methylene blue as a wet coverslip preparation; photomicrographs, in color and in black and white, of various types of cellular exudates of bowel discharges and the relationship to various types of pathologic conditions of the bowel including chronic ulcerative colitis, amebic and bacillary dysentery, carcinoma of the bowel and venereal lymphogranuloma; photomicrographs demonstrating the differential diagnosis of amebic and bacillary dysentery on the basis of cellular exudate studies and the numerous pitfalls in the diagnosis of amebiasis showing the various types of cells which can be confused with Endamoeba histolytica.

E. G. WAKEFIELD and M. T. FRIEDELL, Mayo Foundation, Rochester, Minn.:

Ileocecal Valve in Man: Its Development and Anatomy: Exhibit demonstrating by dried and fixed specimens of embryonic and adult ileocecal junctions that the ileocecal valve in man is an anatomic structure which functions mechanically; it may be competent or incompetent, depending on its developmental perfection.

A. H. LOGAN, P. W. BROWN, J. A. BARGEN, H. M. WEBER, L. A. BUIE, H. H. BOWING, A. H. BAGGENSTOSS, C. F. DIXON, J. deJ. PEMBERTON and C. W. MAYO, Mayo Clinic, Rochester, Minn.:

Polyps of Rectum and Colon: What Can Be Done About Them: Exhibit illustrating general facts pertaining to the occurrence, family and clinical histories and physical examinations of patients who have polyps of the rectum and colon; diagnosis of polyps of the rectum and colon made by proctoscopic and roentgenologic examination; data pertaining to these diagnoses, also types, location and general gross and histologic appearance of polyps of rectum and colon; treatment of polyps of the rectum and colon by fulguration, transcolonic excision, segmental resection, ileosigmoidoscopy, combined with fulguration and resection of the colon; radium therapy employed in selected cases.

Section on Ophthalmology

The section exhibit committee of the Section on Ophthalmology consists of Georgiana Dvorak Theobald, Oak Park, Ill., chairman; Algernon B. Reese, New York, and Derrick Vail, Cincinnati.

MILTON L. BERLINER, New York:

Biomicroscopy of the Anterior Segment of the Eye: Exhibit of original paintings of unusual conditions occurring in anterior segment of the living eye as seen by biomicroscopy.

P. J. LEINFELDER and LEE ALLEN, University Hospital, Iowa City:

Ophthalmologic Neuro-Anatomy: Exhibit of colored stereoscopic drawings presenting the anatomy of the visual pathway and oculomotor system; relationships of the visual pathway; blood vessels and veins of the base of the brain; internal structures of the brain stem.

JOSEPH C. GEMEROV, Henry Ford Hospital, Detroit:

Stereoscopic Photographs of the Eye: Exhibit of colored stereoscopic photographs of lesions of the lids, conjunctiva, cornea, anterior chamber and lens, with brief histories.

ROBERT K. LAMBERT, New York:

Significant Structural Features of the Ocular Circulation: Exhibit of photographs, photomicrographs, drawings, paintings and transparencies showing serial sections of eyes, including orbital contents, stained with differential stains; study of the circulation; comparison photographs showing normal and diseased vessels and vessels of other organs.

WILLIAM LAW WATSON, New York:

Treatment of Tumors in the Region of the Eye: Exhibit of transparencies illustrating tumors located about the eye; photographs of the gross lesions and of the eye before and after treatment; indications for the different forms of treatment, whether radiologic or surgical, demonstrated and complications of each illustrated; ophthalmologic complications resulting from radiation therapy for cancer about the eyes illustrated and methods for avoiding such complications demonstrated.

ALAN C. WOODS, JOHN M. McLEAN and DELBERT PARKER, Johns Hopkins Hospital, Baltimore:

Art in Ophthalmology: Exhibit of the art collection of the Wilmer Institute and comprising various paintings and drawings made over the last twelve years illustrating various phases of ocular pathology, especially fundus diseases; collection of colored stereoscopic slides of ocular pathology, and various photographic materials relating to art in ophthalmology, including motion pictures.

JAMES W. WHITE and HAROLD W. BROWN, New York:

Various Types of Strabismus: Exhibit of pictures demonstrating the various types of strabismus—hereditary, congenital and acquired paralysis; accommodative forms of strabismus; results of treatment, operative or otherwise.

BERNARD SAMUELS, CONRAD BERENS, BRITTAIN F. PAYNE, EDGAR B. BURCHELL and DONALD W. BOGART, New York:

Ocular Pathology: Exhibit of gross and microscopic specimens from the pathologic collection of the New York Eye and Ear Infirmary, with special reference to intra-ocular neoplasms, primary and secondary glaucoma, ectasias and inflammatory conditions.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC., New York:

The Doctor Saves Sight: Exhibit of a large wall map showing the sight conservation committees of local medical societies; presenting graphically ways in which the National Society for the Prevention of Blindness offers its services to the medical profession; presenting selected slides available for loan to the medical profession and other visual education material.

ALSON E. BRALEY, Detroit:

Intracellular Bodies of the Conjunctival Epithelial Cells: Exhibit of photomicrographs showing intracellular bodies of the conjunctival epithelial cells; bodies found in epithelial cells under physiologic and pathologic conditions illustrated and discussed; direct smears of conjunctival cells and tissue culture epithelial cells shown; differential diagnosis between the Halberstoder-Prowazek inclusion bodies and all other forms of intracellular bodies discussed.

RAYMOND L. PFEIFFER, New York:

Roentgenography of the Optic Canals: Exhibit of roentgenograms of the optic canals showing normal variations and pathologic changes, presented with descriptive legends and notes on case histories with diagnoses, and revealing the canals in true contour, symmetrically and stereoscopically.

L. S. STONE and FREDERICK A. WIES, Yale University School of Medicine, New Haven, Conn.:

Return of Vision in the Vertebrate Eye Following Repeated Transplantations: Exhibit of photographs and explanatory placards giving the results of various studies on the vertebrate

eye; motion picture showing the operation involved in transplanting the entire eye of the salamander from one individual to another; various stages after operation in the appearance of the eye up to the time when it becomes again a normal functioning organ; experiments demonstrating return of visual as well as other functions in the eye after repeated transplantations.

JOHN N. EVANS, CHARLES ROSENTHAL, CHARLES HOPKINS, HENRY ABBOTT, GEORGE GRAHAM and MICHAEL BERNFELD, Brooklyn:

Recent Advances in Central Visual Field Studies: Exhibit showing result of research work over a period covering the last ten years, presented in the form of records, charts and photographs, supplemented by demonstration of instruments, technic of examination and motion pictures; historical review, anatomy, physiology, clinical studies and theoretical considerations, representing past contributions and active studies.

Section on Radiology

The representative to the Scientific Exhibit from the Section on Radiology is S. W. Donaldson, Ann Arbor, Mich.

S. J. HAWLEY, Geisinger Hospital, Danville, Pa.:

Rotation Therapy: Exhibit showing that rotation therapy is a method of irradiation of deep seated lesions by means of which, under certain limiting conditions, an advantageous ratio of deep to surface dosage may be obtained; a life size model shown in operation demonstrating the method of application; charts and graphs showing the distribution of radiation within the body and the application of the method to the patient.

I. SETH HIRSCH, College of Medicine, New York University and Beth Israel Hospital, New York:

Application of Fluorography to Group Examinations: Exhibit showing that fluorography is the photography of the fluoroscopic image and that by this method a complete roentgen examination of the chest may be made on small films, reducing the cost of the roentgen examination to 2 per cent of the cost of the usual large films, making it possible to apply roentgen examination of the chest to large groups of the population; a series of direct films and indirect fluorographs of 100 persons demonstrating the value of the fluorographic method in detecting pulmonary and cardiac lesions.

CORNELIUS G. DYKE, Neurological Institute of New York, New York:

Roentgen Study of the Skull and Intracranial Contents with Particular Reference to Tumors: Exhibit including samples of various type of intracranial tumors as shown on the plain roentgenograms of the skull and showing the changes in the skull produced by infections, subdural hematoma and cerebral hypoplasia. A section will be devoted to encephalography and ventriculography and the conditions which may be elucidated by these procedures.

BERNARD P. WIDMANN and HERMAN OSTRUM, Philadelphia:

Roentgenology of the Heart and Aorta: Exhibit showing correlation of autopsy, clinical and roentgen examinations of congenital, organic and functional types of hearts and aortas; according to the stage of development, a manifold variety of contours of the heart and aorta are demonstrated; rheumatic, syphilitic, arteriosclerotic, hypertensive as well as cardiac and aortic aneurysms.

WILLIAM H. MEYER, New York Post-Graduate Medical School and Hospital of Columbia University, New York:

Depth Dose Calculation: Exhibit of charts illustrating a method of depth dose estimation wherein absorption in relatively small unit masses is used as the index of effective radiation; and an instrument for determining depth dosage under the many different operating conditions.

LEE A. HADLEY and THEODORE SNOOK, Syracuse University College of Medicine, Syracuse, N. Y.:

Cervical Spine Studies: Exhibit of roentgen ray studies of the cervical spine showing normal relationship of the segments in flexion and in extension with changes indicating injury; accessory first dorsal transverse process; normal and abnormal cervical foramina; 45 degree roentgen ray studies of the intervertebral foramina and microscopic sections cut from the corresponding cadaver specimens.

WILLIAM E. HOWES and SAMUEL G. SCHENK, Brooklyn:

Primary Bone Tumors: Exhibit of charts giving classification of bone tumors; transparencies showing the pathology plus roentgenograms of each group; cases shown before and after roentgen therapy; case histories; charts giving age, sex and survival period of the group under consideration.

JACOB FIERSTEIN, New York:

Obstruction of the Gastrointestinal Tract; Roentgenologic Demonstration: Exhibit of roentgenograms and charts showing the results of obstruction at various points in the gastrointestinal tract, some of which are diagnosable clinically and all of them demonstrable by roentgen examination; in abdominal pathology roentgen examination has been enlightening in obscure cases; level of obstruction is often precisely localized and in other instances the approximate level may be determined; growing tendency to make simple roentgenograms of the abdomen preoperatively in all but the most obvious or urgent cases.

GIOACCHINO FAILLA, EDITH H. QUIMBY, L. D. MARINELLI and T. R. FOLSOM, Memorial Hospital, New York:

New Radiation Equipment: Exhibit showing new equipment developed especially for the roentgen and radium departments of Memorial Hospital, including 1,000 and 250 kilovolt x-ray machines, a recording-integrating dosimeter, a new radon plant and various devices for protection against penetrating roentgen rays and gamma rays; diagrams and photographs of the new equipment, information regarding protection in the voltage range from 200 to 1,000 kilovolts, absorption and depth dose date for the new x-ray machines; portable apparatus.

RAPHAEL POMERANZ and RICHARD H. DIEFFENBACH, Newark, N. J.:

Primary Cancer of the Lung—A Radiologic Study: Exhibit of transparencies illustrating a series of cases of primary cancer of the lung which were followed up clinically, radiographically, microscopically and in some cases surgically; results obtainable by surgery and radiotherapy; statistical study of cancer of the lung in the United States; conclusions.

WILLIAM SNOW, New York:

Roentgenology in Advanced Pregnancy—Original Studies: Exhibit presenting roentgenographic method of studying the size and form of the pelvic inlet, midpelvis and outlet illustrated and correlated with the fetus; roentgenographic study of soft tissues with location of placenta, hydramnios in vivo, the picture of hydramnios reproduced experimentally; placenta praevia, amniotic sac, abdominal pregnancy, tumors, forewaters and lower uterine segment.

D. E. EHRLICH, New York City Cancer Institute, New York:

Pendent Mastography: Exhibit describing the method of making roentgenograms of patient in the standing position; illustrative cases showing the value of the pendent position; numerous conditions shown, such as benign tumors, hematoma, malignant tumors and inflammatory reactions.

Section on Pathology and Physiology

In addition to a large group of exhibits on pathology and physiology, the section is cooperating in the Special Exhibit on Fresh Pathology. The representative to the Scientific Exhibit from the section is Frank W. Konzelmann, Philadelphia.

E. PFEIFFER and ATHALIA BECHTEL, Hahnemann Medical College and Hospital, Philadelphia:

Crystallographic Studies of Abnormal Growth: Exhibit of charts describing the technic and tabulating the results obtained by applying the Pfeiffer crystallization method in the diagnosis of malignant tumor formation; study of the influence of the addition of hemolized blood on the various crystallization patterns of copper chloride, using the blood both of human beings and of mice; display of the actual crystallizations.

EUGENE R. WHITMORE, Washington, D. C.:

Cancer of the Breast; Radiant Energy and Lesions of the Skin: Exhibit of photographs and photomicrographs, with descriptive legends, from whole organ sections of the breast of chronic cystic mastitis, fibro-epithelial tumors and carcinoma of the breast; photographs and photomicrographs, with descriptive legends, showing effect of sunlight, quartz mercury arc radiations, and light sensitization in lesions of the skin.

NORMAN W. ELTON, Millard Fillmore Hospital, Buffalo.

The Defective Scar of High Cesarean Section: Exhibit analyzing the mechanism of uterine rupture in subsequent pregnancy from a histologic study of sixteen defective scars with and without uteroperitoneal fistulas; rupture is usually the tearing of a very thin scar, bridging a potential fistula, the side walls of which are lined by decidua; the play of stresses about a neutral point in the freshly sutured incision during involution tends to produce retraction of the outer layers, compression of the inner layers, and eversion of the wound; the method of suturing is open to discussion, since strangulation often leaves demonstrable damage.

EDWARD SINGER, ROBERT M. ROGERS, Brooklyn Hospital and Long Island College of Medicine, Brooklyn, N. Y.

Fluorescence Microscopy: Exhibit showing (1) vital microscopy in fluorescent light with high power magnifications of cells, tissues and organs of living animals; morphologic and color changes during physiologic and pathologic processes; morphologic effect of drugs in cells and organs of living animals; (2) fluorescence microscopy of histologic sections shown in auto fluorescence and induced fluorescence; (3) fluorescence analysis; the determination of p_H, concentration, dielectric constant and the recognition of various substances by their fluorescence in tissues will be demonstrated; (4) transparencies of photomicrographs and drawings of fluorescent tissues; (5) charts explaining the theory and technics.

JACOB WERNE, HANS FREIVOGEL and CHARLES BREEDIS, Office of the Chief Medical Examiner, City of New York, Flushing Hospital and St. John's Long Island City Hospital:

Color Photography at the Autopsy Table: Exhibit of lantern slides of routine hospital and medicolegal pathologic material; demonstration of the use of polaroid lenses and screens which completely eliminate disturbing high-lights and accurately portray each successive finding at dissection. The accuracy with which the lesions are depicted, in natural color, makes this technic a valuable aid at conferences and in teaching.

JOHN EIMAN and CHARLES G. GROSSCUP, Abington Memorial Hospital, Abington, Pa.:

Control of Water and Solute Balance: Exhibit illustrating by means of diagrams and charts the fundamental factors governing the amount of water and its distribution in the body under normal and pathologic conditions; a graphic method for bedside evaluation and correction of water and solute balance.

WOLFGANG GRETHMANN and H. E. KLEINSCHMIDT, National Tuberculosis Association, New York:

Morphologic Biology of Tuberculosis: Exhibit of transparencies illustrating the pathologic progression of tuberculosis beginning with the primary tubercle, including specimen, roentgenogram before death and schematic diagram.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Muncie, Ind.:

Function of the Pathologist in the Community: Exhibit showing the pathologist as the hub of the scientific work of the community and hospital with spokes indicating different functions, such as bacteriology, chemistry, serology, toxicology, crime detection, autopsy, hematology, surgical pathology, research, and other community activities of the pathologist.

ALEXANDER S. WIENER, New York:

Medicolegal Applications of Individuality Tests of the Blood in Disputed Parentage and for Criminal Identification: Exhibit of charts illustrating technic of grouping dried and fresh blood stains; cases from actual forensic practice; charts outlining the heredity of the blood groups and MN types, with cases illustrating application in disputed parentage; visitors so desiring will be tested; facilities will be available for carrying out tests for the agglutinogens A, B, M and N and the subgroup of groups A and AB on fresh blood.

NATHAN ROSENTHAL, PETER VOGEL and MARIO VOLTERRA, New York:

Hematologic Diagnosis: Exhibit of photomicrographs of blood smears in various blood dyscrasias; smears of sternal bone marrow in diseases of the blood, Gaucher's disease, Niemann-Pick's disease, multiple myeloma and metastatic carcinoma; lymph node and splenic puncture in diseases of the lymph nodes and spleen; microscopic demonstrations.

SAMUEL WEISS and EUGENE FOLDES, New York:

Interrelationship Between the Digestive System and the Morphologic and Chemical Composition of the Blood: Exhibit showing the manifold changes of the blood found in association with the functional and organic state of the gastrointestinal tract, the liver and pancreas. Many of these changes of the blood are conditioned by the state of the digestive system. On the other hand, the digestive system is influenced by the composition of the blood, and some of the hematologic findings shown in the exhibit are, in this sense, of primary significance.

HOLLIS K. RUSSELL, White Plains, N. Y.:

Histopathologic Studies in Blood Dyscrasias: Exhibit of colored photomicrographs of the peripheral blood, bone marrow and lesions characteristic of these diseases in the internal organs.

ALFRED PLAUT, Beth Israel Hospital, New York:

Pituitary Gland in Man and Ape: Exhibit of photomicrographs, with legends, descriptions and explanations, showing the pituitary gland in man and ape; septic lesions in the pituitary gland; pinealocytoma with metastases.

SAMUEL A. GOLDBERG and PHYLLIS STANLEY, Presbyterian Hospital, Newark, N. J.:

Endocrine Lesions and Experimental Cretinism: Exhibit of charts, museum specimens and photomicrographs illustrating lesions in some of the endocrine organs and experimental athyria; solid and cystic tumors of the ovary, hydatidiform moles and chorio-epithelioma, various types of teratoma testis and tuberculoma testis, primary and secondary tumors and tuberculosis of the adrenal glands, parathyroid adenoma associated with hypercalcemia, osteitis fibrosa cystica and nephrolithiasis, with recalcification after parathyroidectomy, and various types of carcinoma of the thyroid and a case of true cretinism; pathologic changes resulting from experimental cretinism, in sheep and goats, include persistence of the epiphysial cartilages, calcification of the aorta, myxedema and hypertrophy of the adrenals.

ALFRED ANGRIST, Jamaica, N. Y., and RICHARD GRIMES, Forest Hills, N. Y.:

Demonstration of Forms of Intracranial Hemorrhage: Exhibit of natural color transparency photographs of the varying types of traumatic and medical hemorrhages found intracranially in the routine autopsy material, with clinical correlation; material from Office of the Chief Medical Examiner and the routine cases of the Queens General Hospital.

HERBERT T. KELLY and EDMUND L. HOUSEL, Philadelphia:

Deficiency Disease: Exhibit of charts, case reports, photographs and motion pictures summarizing some of the newer knowledge of nutrition; importance of deficiency disease, either alone or as a conditioning factor in other diseases stressed; vitamins, minerals, anti-pernicious anemia factor and biologic protein included in the minor quantities in the diet necessary for the maintenance of good health; details of history taking, physical examination, laboratory examination and therapy presented; factors of supply, digestion, absorption, storage and utilization considered.

LEWIS GREGORY COLE and WILLIAM GREGORY COLE, John B. Pierce Foundation, New York, and St. Agnes Hospital, White Plains, N. Y.:

Unorthodox Microscopic Criteria: Exhibit of light and dark field photomicrographs of pneumoconiosis, correlating the pathologic observations in four types of pneumoconiosis with the roentgenologic examinations; previously unrecognized microscopic criteria observed in neoplastic lesions compared with their antitheses as observed in inflammatory lesions.

R. H. RIGDON, Pathologic Institute, University of Tennessee, Memphis:

Observations on Capillary Permeability and Inflammation: Exhibit of photographs made in an experimental study on inflammation and capillary permeability; inflammation produced by the local application of xylene and trypan blue, india ink, a virus and staphylococci all observed to localize in these areas of inflammation; time of localization influenced by the interval between the application of the irritant and the intravenous injection of the substances mentioned.

Section on Nervous and Mental Diseases

The representative to the Scientific Exhibit from the Section on Nervous and Mental Diseases is F. P. Moersch, Rochester, Minn. Motion pictures will be shown in an adjoining area in addition to the exhibits.

R. FINLEY GAYLE JR., Richmond, Va., and JAMES B. PETTIS, Staunton, Va.:

Results of the Use of the Bulgarian Treatment in Parkinsonism: Exhibit of a motion picture showing three bedridden patients with Parkinson's disease before the use of belladonna root extract and the same patients after its use; still pictures showing patients in oculogyric crises and others showing the attitude and gait of the disease before and after treatment; charts giving details of the history of at least fifty cases of parkinsonism describing the type of the disease, the parts involved, the duration of the disease, the previous treatment and the response to belladonna root extract; a chart showing the objective improvement in amplitude of the tremor and improvement in handwriting.

JAMES GREENWOOD JR., Houston, Texas:

Spinal Epidural Varicosities and Thrombophlebitis: Exhibit of sketches of normal anatomy of extradural plexus and their drainage; placards describing syndrome of epidural varicosities; drawings illustrating why posture has such an important role in aggravating or relieving symptoms; case reports with drawings illustrating the condition found at operation; roentgenograms of spine showing block by iodized poppy-seed oil, pedicle erosion, etc.; summary of the results of operation; speculation as to etiology.

FREDERIC A. GIBBS, W. G. LENNOX and A. M. GRASS, Boston City Hospital, Boston:

Recent Advances in Electro-Encephalography: Exhibit of charts, models and motion pictures giving the results obtained with new instruments in brain tumor localization and in the study of central nervous disorders, notably epilepsy and schizophrenia, in both their clinical and their subclinical form; new types of multichannel electro-encephalograph and frequency analyzers for clinical and research studies.

SIDNEY W. GROSS, New York:

Cerebral Arteriography by Means of a Rapidly Excreted Organic Iodide: Exhibit demonstrating the technic, indications and results of cerebral arteriography by means of a rapidly excreted organic iodide; films showing the results obtained by this method, including the normal cerebral circulation in man and various lesions, such as aneurysms, neoplasms and vascular anomalies of the brain.

E. A. SPIEGEL, MONA SPIEGEL-ADOLPH and H. T. WYCIS, Temple University School of Medicine, Philadelphia:

Physiopathology of Convulsive Disorders: Exhibit of portable apparatus for measurement of polarizability and permeability of brain tissue in vivo; charts illustrating physicochemical mechanisms in convulsive reactivity; quantitative measurement of convulsive reactivity (effect of various bromides, hypochloremia and hyperchloremia, hypercholesteremia); permeability changes induced by metrazol and insulin convulsions; changes of the ratio of nonelectrolytes to electrolytes in the spinal fluid in epileptic and in schizophrenic patients after artificially induced convulsions.

JOHN KERSHMAN, HERBERT JASPER and ARTHUR ELVIDGE, Montreal:

Clinical Electro-Encephalography with Special Reference to Studies of Head Injury: Exhibit showing the clinical use of the electro-encephalogram, demonstrating standard placements of electrodes; examples of patients with head injuries, correlating the clinical and neurologic examinations, roentgenograms, spinal fluid examination and electro-encephalograms; various types of electro-encephalograms and injuries shown.

HENRY R. VIETS and ROBERT S. SCHWAB, Boston:

Recent Advances in Myasthenia Gravis: Exhibit showing the diagnosis, physiology, pathology and treatment of myasthenia gravis; (*a*) diagnosis: synchronous electromyographic and quantitative ergographic studies; barium studies on patients with dysphagia; sound studies in dysarthria; (*b*) physiology: effect of prostigmine on heart muscle as shown by kymographic roentgen ray shadow; effect of prostigmine on the handwriting; (*c*) pathology: postmortem reports on two recent deaths; (*d*) treatment: additional studies in drug therapy.

DAVID J. COHN and IRVING KAPLAN, Michael Reese Hospital, Chicago:

Enzymes in the Central Nervous System: Exhibit presenting a study of the distribution of enzymes in normal brain and spinal cord tissue and in the cerebrospinal fluid, and of certain abnormalities found in disease; a correlation of recent advances in this field and their clinical significance.

HAROLD C. VOSS, J. J. KEARNS and A. H. P. E. VERBRUGGHEN, Chicago:

Head Injuries: Neurosurgical and Neuropathologic Exhibit: Exhibit of necropsy specimens of brains of patients dying from various types of head injury and illustrating various types of brain injury; drawings illustrating various types of external trauma and injury to the cranial vault; charts and diagrams illustrating statistics of the neurosurgical service at the Cook County Hospital, clinical classification of cases of head injury, and clinical management of various types of cases of head injury, including those in which surgical treatment is indicated; technic of surgical treatment of operative cases illustrated in motion pictures; statistical review of cases.

MOTION PICTURES

The following motion pictures will be shown on a regular schedule in an area adjoining the exhibits of the Section on Nervous and Mental Diseases:

A. E. BENNETT, Omaha:

The Use of Curare in Spastic States and Convulsive Shock Therapy.

S. PHILIP GOODHART and BENJAMIN HARRIS BALSER, Columbia University and Montefiore Hospital, New York:

NEUROLOGIC CINEMATOGRAPHIC ATLAS:

Progressive Atrophies, Dystrophies and Allied Conditions.
Convulsive and Allied States.
Somatic Endocrine Types.
Neuro-Ophthalmologic Conditions.
Dystonia Musculorum Deformans.
Postencephalitic Syndromes.

B. T. HORTON and G. M. ROTH, Mayo Clinic, Rochester, Minn.:

Collapse After Swimming.

J. RUDOLPH JAEGER, University of Colorado School of Medicine, Denver:

Frontal Lobe Tumor.
Diagnosis of Brain Lesions by Injection of Air.
Herniated Intervertebral Disk (with Sciatic Neuralgia).
Pearly Tumor Cerebellopontile Angle.
Compound Depressed Fracture of the Skull.
Lumbar Sympathectomy for Traumatic Sciatic Neuritis.
Craniopharyngioma (Rathke Pouch Pituitary Tumor).
Intracranial Meningioma.
Tumor of the Spinal Cord.
Removal of Intracranial Subdural Hematoma.

JOHN MCDOWELL MCKINNEY and MAURICE FROCHT, Neurological Institute, New York:

Adie's Syndrome. A Nonsyphilitic Disease Simulating Tabes Dorsalis.

TRACY J. PUTNAM and PAUL F. A. HOEFER, Neurological Institute, New York:

Paralysis Agitans and Athetosis—Physiology and Treatment.

C. H. SHELDEN and HENRY W. WOLTMAN, Mayo Clinic, Rochester, Minn.:

Ménière's Syndrome Treated With Histamine Given Intravenously.

W. H. STEWART, H. C. MAIER and C. W. BREIMER, Lenox Hill Hospital, New York:

Cineroentgenography of the Chest and Upper Digestive Tract.

HENRY W. WOLTMAN, Department of Neurology, Neurosurgery and Biophysics, Mayo Clinic, Rochester, Minn.:

The Correlation of Clinical, Electro-Encephalographic and Pneumo-Encephalographic Localization.

EDUCATIONAL CLASSIFICATION

Government and National Organizations

The educational exhibits include those exhibits from national and state organizations and government institutions which are put on in the name of the institution rather than of individuals and which are intended to show progress in the particular activities with which those institutions deal.

These exhibits are not open to medal awards, but a certificate of merit is presented to the best exhibit in the classification.

AMERICAN SOCIETY OF ANESTHETISTS, New York:

Anesthesiology—Historical Development: Exhibit showing interesting pieces of apparatus and books of historical significance. (This exhibit is presented in connection with the Section on Miscellaneous Topics, Session on Anesthesia. For a more complete description see that section.)

MEDICAL SOCIETY OF THE STATE OF NEW YORK, Brooklyn:

Committee on Maternal Welfare: Exhibit of charts showing character and progress of maternal welfare and work in the county medical societies of the state; printed material for distribution.

CHILDREN'S BUREAU, Washington, D. C.:

Nutrition in Relation to Growth and Development of Children: An exhibit dealing with the diagnosis of scurvy and rickets, vitamin C deficiency and physical status of school children. (This exhibit is presented as part of the exhibit symposium on nutrition of children by the Section on Pediatrics. For a more complete description see that section.)

AMERICAN PHARMACEUTICAL ASSOCIATION, Washington, D. C.:

National Formulary Preparations: Exhibit of National Formulary preparations of interest to prescribing physicians; examples of preparations of therapeutic importance representing convenient and satisfactory dosage forms and of vehicles designed to aid the physician in prescribing attractive and palatable prescriptions.

U. S. PHARMACOPEIA CONVENTION, Philadelphia:

United States Pharmacopeia, Eleventh Revision: Exhibit of pharmacopeial preparations and chemicals and a demonstration of the use of these in prescription practice.

ADVISORY BOARD FOR MEDICAL SPECIALTIES, Pittsburgh:

Exhibit of charts, certificates and literature describing the work of the Advisory Board for Medical Specialties and of the examining Boards for Certification in medical specialties, including the American Boards of Ophthalmology, Otolaryngology, Obstetrics and Gynecology, Dermatology and Syphilology, Pediatrics, Psychiatry and Neurology, Radiology, Orthopedic Surgery, Urology, Pathology, Internal Medicine, Surgery (Anesthesiology and Plastic Surgery as affiliates of the American Board of Surgery) and Neurological Surgery. The new Directory of Medical Specialists certified by the American Boards will also be shown.

NATIONAL BOARD OF MEDICAL EXAMINERS, Philadelphia:

Exhibit of charts describing the work and progress of the National Board of Medical Examiners and presenting the results of its examinations.

AMERICAN COLLEGE OF SURGEONS, Chicago:

Bone Sarcoma: Exhibit of charts, diagrams and descriptive material pertaining to the diagnosis and treatment of malignant bone tumors.

AMERICAN SOCIETY FOR THE HARD OF HEARING, Washington, D. C.:

Exhibit of posters, charts and pictures emphasizing the four point program: prevention, conservation, alleviation and rehabilitation; literature on the hard of hearing child, the hard of hearing adult, hearing tests, lip reading and hearing aids.

TENNESSEE STATE MEDICAL ASSOCIATION, Nashville:

Postgraduate Medical Education (Extension): Exhibit of a map of Tennessee showing (1) teaching districts, (2) teaching (pediatrics) centers and (3) distribution of physicians who have entered into the postgraduate courses according to their residence; letters of appreciation; map showing information for two years' instruction in obstetrics.

OKLAHOMA STATE MEDICAL ASSOCIATION, POSTGRADUATE COMMITTEE ON MEDICAL TEACHING, Oklahoma City:

Postgraduate Teaching in Obstetrics and Pediatrics: Exhibit portraying the administration and operation of the two year program on postgraduate teaching in obstetrics in Oklahoma; map showing the eight teaching districts and each teaching center therein, panels displaying aids used in teaching and pertinent information regarding the course and data pertaining to the present two year program in pediatrics; a pamphlet giving the history and methods of operation of postgraduate medical teaching in Oklahoma since 1925.

American Medical Association

The exhibits from the headquarters group of the American Medical Association will be found in various parts of the hall. These exhibits are not open to awards.

ARCHIVES OF SURGERY:

Exhibit presenting the outstanding points of merit of the ARCHIVES OF SURGERY.

COUNCIL ON PHYSICAL THERAPY:

Audiometers and Hearing Aids: Exhibit demonstrating the component parts and the function of audiometers and hearing aids.

COUNCIL ON INDUSTRIAL HEALTH:

Silicosis: Exhibit of charts, transparencies and specimens showing the causes, prevalence, pathology and prevention of silicosis.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS:

Exhibit of charts, maps and other material showing the results of the work of the Council in medical education, licensure, specialty certification and hospital service, including postgraduate opportunities, extension training, fellowships, residencies and internships; publications, statistical data and lists of approved medical schools, hospitals and schools for technicians.

COUNCIL ON PHARMACY AND CHEMISTRY:

Exhibit of charts, descriptions and publications dealing with the work of the Council on Pharmacy and Chemistry in evaluating medicinal articles and disseminating the resultant information for the benefit of the profession.

AWARDS

There will be two groups of awards consisting each of (*a*) gold medal, (*b*) silver medal, (*c*) bronze medal and (*d*) certificates of merit.

[NOTE.—The special subsidized exhibits (fractures, lame backs and fresh pathology) and the exhibits of the headquarters of the American Medical Association are not open to awards.]

GROUP I

Awards in group I are made for exhibits of individual investigations, which are judged on basis of originality and excellence of presentation.

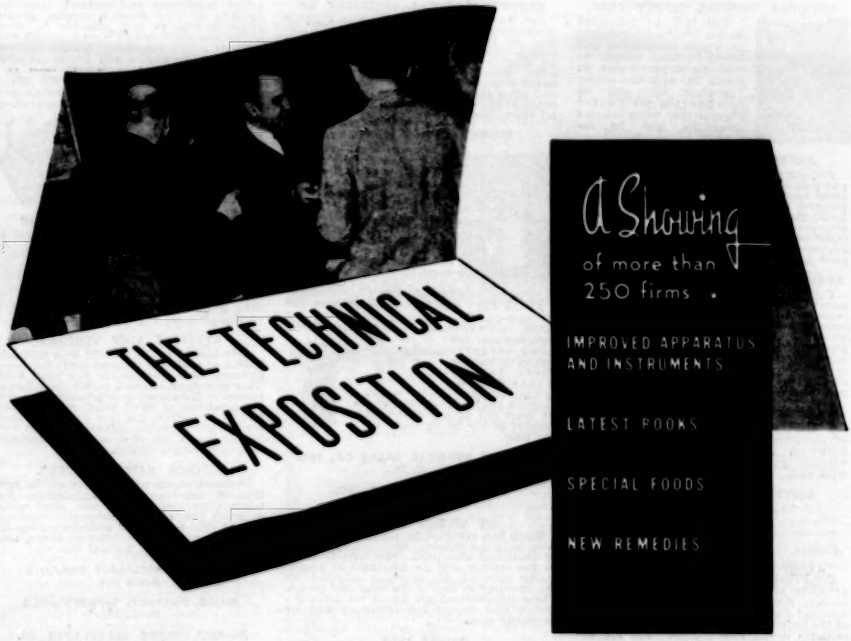
GROUP II

Awards in group II are made for exhibits that do not exemplify purely experimental studies, which are judged on basis of the excellence of correlating facts and excellence of presentation.

Medals are awarded only to individuals. A special certificate of merit will be awarded to the best educational exhibit in the Educational Classification (this includes exhibits by national societies).

The Committee on Awards will be composed of five persons. It will make the decisions on Wednesday.

The names of the members of the Committee on Awards will not be available until after the decisions have been published.



THREE spacious floors of well-ordered booths; hundreds of attractive displays of new products, new ideas, new services; courteous, capable experts in practically every line of the medical manufacturing industry—this is what the Technical Exposition in Grand Central Palace holds in store for the visiting physician.

Here in a brief space of time, the physician can make contact with the great strides in pharmaceutical manufacturing; here he can browse through practically the complete line of medical books of leading publishers; here he can see actual specimens of thousands of instruments and pieces of apparatus—take them in his own hands—see them manipulated as in actual use; and here he will find scientific representatives of important food firms ready to tell him about the applications of hundreds of food products to nutritional problems.

The arrangement of the technical exhibits on the three floors with the scientific exhibits immediately above provides a compactness which will be most convenient. Elevators and stairs will furnish ready access to all departments.

Registration Headquarters will be located on the second floor, while on the third floor will be a comfortable lounge with writing facilities for all physicians and guests. Here, too, will be registration tables for fraternal and alumni organizations.

Visit this great center of interest whenever possible, before meetings, between meetings, and afterwards. It will be a convenient place to meet friends and make contacts. You will find it an Exposition rather than a sales-room. Therefore feel at perfect liberty to call at any and all of the exhibits, inspect the material on display, and ask questions without fear of being pressed to make a purchase. The Exposition will be open each day from 8:30 A.M. to 6:00 P.M. It will close Friday at noon.

In the following pages are brief items telling what different manufacturers will exhibit.

WILL C. BRAUN
Director of Exhibits

Apparatus and Instruments

ACOUSTICON—DICTOGRAPH SALES CORP.

Acousticon invites all delegates and physicians to visit their exhibit at Booth 289. See displayed a complete line of new Acousticons, including the Model A-45, Vacuum Tube Acousticon. Of particular interest to physicians will be the Comparator, a new device being introduced by Acousticon which gives a graphic picture of the improvement obtained from the aid.

A. S. ALOE COMPANY

A miniature diorama of a modern medical office, with exact scale working models of Aloe Steeline furniture, will attract unusual interest to the Aloe display in Booths 287, 287A and 288. In addition, a complete showing of the newest in instruments, equipment and clinical laboratory apparatus including the new Washington University Portable O-B Table.

AMERICAN MEDICAL SPECIALTIES CO.

Their representatives will demonstrate for you the Wound Bridge, the Micro Blood Sedimentation Outfit for rapid determination of blood sedimentation rate, the E-Z Cuff, a quickly applied blood pressure cuff for any instrument, the Blackwood Replaceable Headmirror and a new model Electric Centrifuge. The complete line of Amsco Products will be displayed in Booth 115.

(Continued on next page)

AMERICAN HOSPITAL SUPPLY CORP.

You will be interested in the latest advancements in blood transfusion and blood banking technic as will be demonstrated in Booth 59, with the Baxter Transfuse Vac and its companion, the Baxter Plasma-Vac. Other selected specialties will be included.

AMERICAN OPTICAL COMPANY

Prescription accuracy, ease of operation and patients' comfort will be the three features most attracting your interest about the new AO Additive Phoroptor displayed in Booths 203, 204, 205 and 206. You will also see exhibited much of the company's other diagnostic and refractive equipment. Representatives will be on hand to answer your questions.

AMERICAN SAFETY RAZOR CORPORATION

For complete information on A.S.R. Surgeon's Blades visit Booth 208. Meet their representatives, who, from personal experience and long observation, can answer all your questions about these Surgeon's Blades. They will gladly explain the various uses of the blades—9 types in all to suit every need. Drop in at Booth 208, chat with their representatives. Sample their products.

AMERICAN STERILIZER COMPANY

A display of typical modern office types of sterilizers will feature the exhibit in Booth 35. Attendants will be on hand to welcome you and discuss the equipment with you.

AUSTENAL LABORATORIES, INC.
Booth 25

C. R. BARD, INC.
Booth 126

BARD-PARKER COMPANY, INC.

Bard-Parker will exhibit the following products at Booth 141: Rib-Back surgical blades, Renewable Edge scissors, Hematological Case for obtaining blood samples at the bedside and Ortholator for obtaining accurate dental radiographs. You are invited to visit the display.

BARNETT LABORATORIES

Clinical photographers and others interested in photography for supplementing case histories are invited to call at Booth 215. Bring your own camera, if it's a Leica, Contax or similar model and you will be shown how to adapt it for clinical photography. Demonstration Eye Kits also on exhibit.

BAUSCH & LOMB OPTICAL CO.
Booths 275 and 276

BECTON, DICKINSON & CO.

In Booths 81 and 82, Becton, Dickinson will present a complete line of syringes, needles, thermometers, Ace Bandages, Asepto syringes and diagnostic items. A special feature will be the demonstration of the new Elastic Adhesive Bandage just added to the line. In addition, a daily demonstration of thermometer blowing and syringe making, a regular feature of their exhibit. Trained attendants available to discuss equipment and uses.

CAMERON SURGICAL SPECIALTY CO.

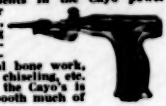
See the new Cameron-Schindler Flexible Gastroscope, the Color-Flash Clinical Camera, the Projectoray and the latest Cameron-Lempert Headlite demonstrated. Also on display will be the new inexpensive office model Radio Knife, Combination Spark-Gap & Tube Electro-Surgical Unit, and other electro surgical units for cutting, coagulating, desiccation and fulguration in all sizes. Booth 89.

WILMOT CASTLE COMPANY

You will want to inspect the new modernistic cabinet designs of Castle sterilizers for they incorporate with their newness the long life and safety features of Castle Full-Automatic Cast-in-Bronze construction. Also on display in Booth 110 will be a full exhibit of Castle lights for surgical needs.

CAYO COMPANY

At the Cayo Booth 240, the surgeon has an opportunity, not only of seeing the latest improvements in the Cayo power instruments for bone surgery, but of observing these instruments demonstrated in actual bone work, such as sawing, chiseling, etc. At least one of the Cayo's is present at the booth much of the time.



CRESCENT SURGICAL SALES CO., INC.
Booth 21

CURVLITE PRODUCTS, INC.
Booth 285A

DE VILBISS COMPANY

Booth 211, reserved by the De Vilbiss Co., will have on display their complete line of medicinal atomizers. Specially featured in the exhibit will be illustrations graphically showing the coverage afforded by the atomizer in use on the nose and throat. These illustrations are based on X-ray research and copies for reference will be available free.

EIBELE & CO.
Booth 139

ELECTRO SURGICAL INSTRUMENT CO.

You are cordially invited to visit Booth 33 where there will be shown a most complete line of electrically lighted surgical instruments. The improved Braasch-Bumpus resectoscope and visual knife, and the Buie proctosigmoidoscopes. The Lynch improved proctosigmoidoscope and anoscope, in addition to the latest types of Jackson and Israel bronchoscopic instruments and accessories.

ENOCHS MANUFACTURING COMPANY
Booth 294A

FOREGGER COMPANY, INC.

On display for Foregger, in Booth 93, will be resuscitation and anesthesia apparatus, including the new O.F. type anesthesia apparatus. The latter will include a new design specially suited to those requiring small, compact and inexpensive apparatus. Improved oxygen equipment, including the Bullown inhaler for nasal administration and a newly designed oxygen humidifying outfit will also be shown.

GASTRO-PHOTOR LABORATORIES

Booth 113 will be of interest to all physicians. Here will be shown the improved Gastro-Photor, representing ten years of actual experience and research. An inspection of this stomach camera should prove instructive and valuable to those physicians interested in more thorough and accurate gastric diagnosis. A large number of gastrophotographs will be on display.

JORDAN AIR & SUCTION PUMP CO.

This exhibit will feature a pressure and suction pump that will raise 100 times its own weight. Also shown at Booth 323, will be an inexpensive, portable, heated ether and suction unit. Your questions and problems will be gladly handled by company representatives.

HAROLD SURGICAL CORPORATION

Last year Harold incorporated as part of their store decorations a set of murals on the "History of the Progress of Medicine." These murals cover 52 different subjects. So much interest was created that the company decided to have small colored replicas made and will exhibit them in Booth 204. If you are interested in the History of Medicine, do not miss this exhibit.

KEYSTONE VIEW COMPANY

A feature of Booth 254 will be a new collection of orthoptic training cards for home prescription known as The Eye Skill Unit. This new type of card, called MonoKrom, embodies the accuracy of photography and the precision of offset printing. You will find it attractive, yet less expensive than regular photography. Also on display will be Keystone's line of orthoptic instruments and stereoscopic targets.

KITCHEN KATCH-ALL CORP.

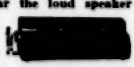
Demonstrations will be given of the new line of vaporizers and humidifiers for home, office and hospital use. And while at Booth 320, see the "Baby-All" Formula and Sterilizer Outfit, a miniature hospital outfit for mother and baby at home, and the new "Baby-All" Natural Nurser.

McKESSON APPLIANCE COMPANY
Booth 285

MAICO COMPANY, INCORPORATED
Booth 307

MARBEL BLOOD CALCULATOR CO.

The Amplifying Stethoscope with broadcast of fetal heartbeats in convention hall from a patient sitting in Booth 312. Also a sound recorder near the loud speaker will record sounds of heart, lungs and blood pressure on a gramophonic disc record of every doctor visiting the exhibit. Another feature of the Marbel booth will be the continuous running of the Marbel Blood Calculator.



MECHANICAL LABORATORIES, INC.
Booth 319

MEDICALITE COMPANY, INC.

Don't miss the Medicalite exhibit, Booth 335. Here you will see a demonstration of how various colors appear under old-style lighting and under modern daylighting. Every visitor should see the quality of light needed in examining rooms, laboratories and offices. And the Auxiliary Units equipped with Medicalite Bulbs will be of interest to all.

E. B. MEYROWITZ SURGICAL INSTRUMENTS

A display of ophthalmological apparatus and eye, ear, nose and throat instruments will headline Meyrowitz' exhibit, Booth 135. The Griffith-Rogers Trial Frame, Evans

EXHIBITORS

Abbott Laboratories.....North Chicago, Ill.
Agfa Ansco.....Binghamton, N. Y.
Allergen-Proof Encasings, Inc.....Cleveland
Allergia Products Co.....Newton, Mass.
Allison Company, W. D.....Indianapolis
Almay Pharmaceutical Corp.....New York City
Aloe Company, A. S.....St. Louis
Amer. Can Company.....New York City
Amer. Comm. on Maternal Welfare.....Chicago
Amer. Cystoscope Makers, Inc.....New York City
Amer. Hosp. Supply Corp.....Chicago
Amer. Institute of Baking.....New York City
Amer. Med. Ass'n.....Chicago
Amer. Med. Specialties Co. Inc.....New York City
Amer. Nurses' Association.....New York City
Amer. Optical Co.....Southbridge, Mass.
Amer. Physicians' Art Assn.....New York City
Amer. Safety Razor Corp.....Brooklyn
Amer. Seal-Kap Corp.....Long Island City
Amer. Sterilizer Co.....Erie, Pa.
Appleton-Century Co., Inc., D.....New York City
Arlington Chemical Co.....Yonkers, N. Y.
Armour Laboratories.....Chicago
Austenal Laboratories, Inc.....New York City
Aznoe's National Phys. Exchange.....Chicago

Bard, Inc., C. R.....New York City
Bard-Parker Co., Inc.....Danbury, Conn.
Barnett Laboratories.....Chicago
Battle Creek Sanitarium.....Battle Creek, Mich.
Bauer & Black.....Chicago
Baum Co., Inc., W. A.....New York City
Bausch & Lomb Optical Co.....Rochester, N. Y.
Beck-Lee Corp.....Chicago
Becton, Dickinson & Co.....Rutherford, N. J.
Bedford Surgical Co. Inc.....Brooklyn
Beeber Co., J.....New York City
Beech-Nut Packing Co.....Canajoharie, N. Y.
Bell & Howell Co.....Chicago
Best Foods, Inc.....New York City
Bilhuber-Knoll Corp.....Orange, N. J.
Blakiston Company.....Philadelphia

Scotometer, new Shahan Thermophore, Castroviejo and Berens instruments will be featured. Also the Neivert Tonsil Snare and Stille stainless steel surgical instruments.

V. MUELLER & CO.

The highlights of all the various fields of surgery will be covered in the Mueller exhibit, Booths 80 and 81. Developments in ophthalmic instruments, also those in ear, nose and throat work, will be shown. Complete representation, by instruments and equipment, of the strides made in orthopedic, urological and general surgery. Your visit will be welcomed!

MULTIFIT, INC.
Booth 205

OHIO CHEMICAL & MANUFACTURING CO.

Look in on Booth 258 and see the complete line of Heidbrink Kinetometer Gas Machines, resuscitation equipment, oxygen tents, Oropharyngeal Outfits and other types of therapy equipment adapted for hospital use. There will also be a full display of Ohio equipment and Ohio anesthetic gases.

PELTON & CRANE COMPANY

It will be a special pleasure for the company to introduce the new Pelton Twin "E 2 O" Surgical Light at this year's convention. Stop in and see how this light eliminates old-fashioned and costly remote control, and sets a record for low cost in surgical lighting. Also worth seeing will be Pelton's line of cast bronze sterilizers. Booth 32.

GEO. P. PILLING & SON CO.

Besides featuring Pilling-made Chevalier Jackson bronchoscopic equipment, this exhibit will include the Miller-Abbott double lumen tube for intestinal intubation, the Leaky empyema tube, Crutchfield tongs for cervical traction, DeMartel anastomosis clamps and others. Of special interest will be the Pilling-made Schiötz Tonometer, Bruening Otoscope and Vienna Face Mask. Booth 291.

PROMETHEUS ELECTRIC CORP.

Prometheus will present an interesting exhibit of sterilizers, operating lights and food conveyors. Stainless steel equipment is featured in many new uses. And you will note the improved automatic control devices for sterilizing apparatus. A complete range of operating lights including unique features for better surgical lighting will be demonstrated. Booth 10.

RITTER COMPANY

This first time exhibitor will introduce its fluorescent lighting unit, a new product which has never been shown before. In addition, the Ritter Company will have on display its Sterilizers, Stools, Compressors and an ear, nose and throat unit installed in numerous hospitals within the last few years. Your inspection of Booth 128 is invited.

SAFETY GAS MACHINE CO., INC.

The Improved Augustana Model will be displayed in Booth 258. This gas machine meets the requirements of the Council and is acceptable to them as published in a recent issue of the Journal. You will surely want to inspect it and the other new anesthesia equipment. Demonstrations by an experienced anesthetist.

SCANLAN-MORRIS COMPANY
Booths 18 and 19

J. SKLAR MANUFACTURING CO.

The Sklar exhibit in Booth 366 will feature new suction and pressure apparatus, including the Improved Tompkins Portable Rotary Compressor, the DeLuxe Tompkins, the new Imperatori Apparatus for ear, nose and throat, Balk's Ideal Unit and Moorhead Unit for office and clinic, and the new hospital model of the Bellevue Suction and Pressure Unit. In addition, a complete display of Sklar's American made stainless steel surgical instruments.

J. R. SIEBRANDT MANUFACTURING CO.

The Goodwin Bone Clamp with Drill Guide, which is now equipped with calibration to measure diameter of bone, will be displayed by Siebrandt in Booth 13. Not only does it control direction of drilling, but you can see how it shows the exact length required to drill through both cortexes. Other new items to be featured also.

Diagnostic Apparatus

AMERICAN CYSTOSCOPE MAKERS, INC.

A cordial invitation is extended you to visit the A. C. M. I. Booths 7 and 12 and inspect the first woven ureteral catheters manufactured in America. Learn why Nylon the new Du Pont product was selected. See the A. C. M. I. X-Ray and Non-X-Ray Woven Catheters may be boiled repeatedly without harm. No known sterilizing agent affects them adversely. Examine them at Booths 7 and 12.

W. A. BAUM CO., INC.

Your inspection of the new Standby Model Baumanometer in Booth 52 will be welcomed. In addition, you will find this exhibit includes the showing of new features of the Kompak Model, the "300" Model and emphasizes a new renewal service to Baumanometer users.

BECK-LEE CORPORATION

The increasing use of the cardiogram as a diagnostic essential will focus attention on this exhibit of the latest electrocardiographs by Beck-Lee. Several vastly improved models will be shown. These instruments incorporate the long accepted standard of cardiography—the quartz string. Booth 57.

CAMBRIDGE INSTRUMENT COMPANY, INC.

Featured in Booth 73, as part of a complete display of Cardiac Diagnostic Instruments, Cambridge will show the new instrument for both office and bedside use—a portable "Simpli-Trol" electrocardiograph-stethograph that weighs only 34 pounds and produces simultaneous electrocardiogram and stethogram plus amplified auscultation. This and other models will be demonstrated.

GRADWOHL LABORATORIES

Gradwohl's exhibit, in Booth 23, will show the laboratory procedures in making blood tests for typing donors . . also in determining paternity. You will see demonstrated the necessity of using properly titrated sera and the various safeguards to be thrown around this important procedure. Physicians visiting the exhibit are invited to be typed by the expert in charge.

H. L. GRAHAM

Allergists and dermatologists will be specially interested in Graham's method of patch testing with plant oleoresins. Last year displayed scientifically by Bedford Shelmire and Graham, this year these oleoresins for testing will be exhibited commercially in Booth 311. Stop in and learn what an accurate, convenient method of testing this is.

HERZ-LASKER CORPORATION

At Booth 96, the Offner Direct Writing Electrocardiograph will be on exhibit. See the heart currents recorded in ink on a moving chart so that the cardiogram is immediately available without dark room development. Other developments shown will be the Weiss Sinusoidal and Galvanic unit and Erlanger Eye Ionization Electrodes.

JONES METABOLISM EQUIPMENT CO.

You will have an excellent opportunity to see the Jones Motor Basal Metabolism Unit in actual use. Note this interesting feature—it contains no water and requires no calculation in the determination of the basal metabolic rate. Other exclusive features demonstrated, too! Stop in at Booth 61.

LAMOTTE CHEMICAL PRODUCTS CO.

LaMotte Blood Chemistry Outfits will be exhibited in Booth 104. Included in this year's display will be the new LaMotte Falling Drop Densiometer and LaMotte Outfits for determining Sulfanilamide, Sulfapyridine and Thiocyanates. Many older units will also be displayed.

NATIONAL ELECTRIC INSTR. CO., INC.

In Booth 69, "National" will exhibit many new developments in illuminated instruments, including the Shadowless Otoscope, "Centre-of-Beam" Specialists' Headlight, Complete Body Cavity Set, complete Cautery Equipment and Transilluminators, Non-Luminous and Illuminated Retinoscopes with the "Rolling-Ball-Axis Estimator," Evans Scotometer and the Pascal Stateoscope.

PFALTZ & BAUER, INC.

An exhibit centered around the Fluorophotometer for vitamin determinations, the Colorimeter, Reflectometer and other photoelectric control instruments will highlight

EXHIBITORS

Books of University Presses.....Chicago
Borden Company.....New York City
Burdick Corporation.....Milton, Wisc.

Cambridge Instrument Co., Inc....New York City
Cameron Surg. Specialty Co.....Chicago
Camp & Company, S. H.....Jackson, Mich.
Carnation Company.....Milwaukee
Cash, Incorporated, J. & J...So. Norwalk, Conn.
Castle Company, Wilmot.....Rochester, N. Y.
Caye Co.....San Antonio, Texas
Cerevim Products Corporation...New York City
Cerophyl Laboratories.....Kansas City, Mo.
Chicago Dietetic Supply House.....Chicago
Church & Dwight Co., Inc.....New York City
Ciba Pharmaceutical Products, Inc. Summit, N. J.
Clikhold Surg. Dressing Co...Marshalltown, Iowa
Citrus Concentrates, Inc.....New York City
Clapp, Inc., Harold H.....Jersey City, N. J.
Clay-Adams Company, Inc.....New York City
Collins, Inc., Warren E.....Boston
Colostomy Products, Inc....No. Bereren, N. J.
Columbian Steel Tank Co....Kansas City, Mo.
Conformal Footwear Co.....St. Louis
Conti Products Corp.....New York City
Cooperative Med. Adv. Bureau.....Chicago
Corn Prod. Refining Co.....New York City
Cradle Car Service, Inc.....St. Louis
Crescent Surg. Sales Co., Inc...New York City
Curtlite Products, Inc.....New York City
Cutter Laboratories.....Berkeley, Calif.

Davis Company, F. A.....Philadelphia
Davis & Geck, Inc.....Brooklyn
Day's Ideal Baby Shoe Co., Mrs..Danvers, Mass.
DePuy Manufacturing Co.....Warsaw, Ind.
Devereux Schools, Inc.....Berwyn, Pa.
DeVilbiss Co.....Toledo
Dictograph Sales Corp.....New York City
Dietene Co.....Minneapolis
Do/More Chair Co., Inc.....Elkhart, Ind.

this display in Booth 220. You will also see a new micro-balance and a new micro-fluorescence lamp for the certain diagnosis of tubercular bacilli.

SANBORN COMPANY
Booth 79

TAYLOR INSTRUMENT COMPANIES

Taylor will show for the first time the new time-saving Tycos hook type blood pressure cuff. Also on display at Booth 118 will be the famous Pavaex glass boot for the treatment of frostbite, gangrene, etc., Tycos Aneroid Sphygmomanometer, the Mercurial Sphygmomanometer and several popular brands of Taylor fever thermometers.

WELCH ALLYN COMPANY

On display in Booth 91, the Welch Allyn Co. will have a number of new and improved diagnostic instruments. Included will be several types of Laryngoscopes, a new Ophthalmoscope, nasal speculum, epistotomy guide and those increasingly popular bakelite rectal sets.

Dietetic Products

AMERICAN CAN COMPANY

All registrants at the convention are cordially invited to call at Booths 102 and 103 where information will be available concerning those aspects of commercially canned foods which are of greatest interest to the medical profession. The American Can Company's modern, single-service, paper milk container will also be featured.

AMERICAN INSTITUTE OF BAKING

Here you will be shown the latest research findings on various nutritive aspects of all types of breads and bakery products. This includes new data on the calcium content of white bread and the fortification of white bread with vitamin B_1. Accepted literature on bread in normal and reducing diets will also be available. Booth 284A.

BEECH-NUT PACKING COMPANY

Their complete line of strained and chopped foods for babies will be exhibited by the Beech-Nut Packing Co. in Booth 325. You will notice that one of the outstanding features is that all foods are glass-packed. The dietitian in charge will give you information about these and their other products.

BEST FOODS, INC.

Two unusual features will make this exhibit worth your seeing. A series of three dimensional color photographs showing the process of manufacturing Nucoa—and the other, a Hilgir Quartz Spectrophotometer, a new machine from England which measures the vitamin content of food. See the Nucoa exhibit in Booth 47.

BORDEN COMPANY

A visit to the Borden Booths, 273 & 274 will acquaint you with Biolac, that popular liquid infant food designed to give the artificially fed baby both the nutritional and digestional advantages of the breast-fed. Also exhibited will be these Borden products: Dryco, Bets Lactose, Klim, Merrel-Soule Products and Irradiated Evaporated Milks.

CEREVIM PRODUCTS CORP.

The manufacturer of the nutritious precooked cereal product, Cerevim, will demonstrate the unique aspects of this accepted food formula for infants and growing children. Other products on display will be V.B.W., a delicious vitamin B_1 wafer designed to provide pleasantly the daily requirement of B_1, and Candi-Tips, a novel combination tongue depressor and lollipop for examining the young. Booth 8.

CEROPHYL LABORATORIES

The cereal grass product that attracted so much attention at the Chemical Meeting in Cincinnati will be exhibited at Booth 345. A cordial invitation to visit the booth is extended by the Cerophyl Laboratories (a division of American Dairies). Representatives will be on hand to discuss the value of Cerophyl in special and therapeutic diets.

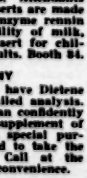
CHICAGO DIETETIC SUPPLY HOUSE

Foods that give more variety to the lower carbohydrate diet will be featured at Booth 213. And dietitians will be present to give you full information on the use of Cellu packed fruits without sugar, sugar-free desserts and their many other products for the diabetic diet.

CITRUS CONCENTRATES, INC.
Booth 289A

CORN PRODUCTS REFINING COMPANY

Make this exhibit in Booth 324 a "must" on your itinerary. "Corn Products" will feature an effective display telling the vital facts about dextrose food-energy sugar and its place in the medical field as well as in food industries. Displayed, will be Karo-Brand Dextrose. Come in and have a talk with their representative.



HAROLD H. CLAPP, INC.

Originators of commercially-prepared Strained Baby Foods and Chopped Junior Foods, Clapp will display all twenty-nine varieties of these foods. Featured will be their newly-introduced Clapp's Rennet Desserts, available in six flavors. Attendants will explain how Rennet Desserts are made with milk and explain the enzyme rennin which enhances the digestibility of milk, thus making it an ideal dessert for children, as well as for many adults. Booth 94.

DIETENE COMPANY

Here's your opportunity to have Dietene explained and to secure detailed analysis. Booth 340. Know why you can confidently recommend it as a dietary supplement of real nutritional value. This special purpose low caloric food is said to take the counting out of calories. Call at the Dietene booth at your own convenience.

FLORIDA CITRUS COMMISSION

This exhibit, Booth 321, will feature both fresh and canned Florida citrus fruits. The interesting thing about the Commission is that it's a state body, functioning under state laws designed to regulate and promote the citrus industry for the benefit of consumers and growers.

GENERAL FOODS CORP.

Stop at Booth 76 and have a cup of delicious Sanka Coffee. This choice blend of Central and South American coffees has 97% of the caffein removed. And according to the Council on Foods, it is "free from caffein effect and can be used when other coffee has been forbidden." You'll find that Sanka Coffee is now available in both the drip and regular grind.

GENERAL MILLS, INC.

A display featuring the manufacture of A.R.P.I. Process Vitamin D will be the center attraction of Booth 302. You will see in amusing and pictorial fashion how vitamin D is produced by activation of ergosterol with low velocity electrons. Other General Mills products exhibited will be Wheaties, Kix, Bisquick, Softstilt and Gold Medal Flour.

GERBER PRODUCTS COMPANY

Ten new foods which have just been added to the Gerber Foods will be on display in the Gerber Booth 122. Copies of the professional literature and the booklets for mothers are there for your examination. They will be sent to you on request. Leave your name with representatives at the Gerber exhibit.

CHR. HANSEN'S LABORATORY

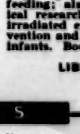
Booth 343 is one to visit along about lunch time, "The 'Junket' Folks" will serve rennet-custards made with either "Junket" Rennet Powder or "Junket" Rennet Tablets. Other "Junket" Products also displayed. Enlarged photographs will show how the rennet enzyme in rennet-custards transforms milk into softer, finer curds. Learn why rennet-custards are recommended for children, convalescents, the whole family. Fully informed attendants on duty.

HAWAIIAN PINEAPPLE COMPANY

Again this year the Hawaiian Pineapple Co. will supply all the convention guests with cool, refreshing glasses of Dole Pineapple Juice from Hawaii. Delegates are urged to stop at the Pineapple booth for a discussion of Dole Pineapple products—both Juice and fruits. It will be Booth 306!

H. J. HEINZ COMPANY

Physicians interested in prescribing for the feeding of infants, older children or adults, requiring soft diets, will be welcomed at the new Heinz exhibit. Strained and Junior Foods will be attractively displayed and representatives in attendance will be happy to supply information on these foods. Ask about the 8th edition of the Heinz Nutritional Charts. Booth 65.



IRRADIATED EVAPORATED MILK INST.

At the Institute exhibit, physicians may obtain free instruction and advice on the nutritive value of irradiated evaporated milk, its uses in infant feeding, milk-allergy, special diets and low-cost family feeding; also information on recent clinical research establishing the efficiency of irradiated evaporated milk in rickets prevention and production of linear growth in infants. Booth 119.

LIBBY, McNEILL & LIBBY
Booth 123

EXHIBITORS

Drug Products Co., Inc.....Long Island City
Duke Laboratories, Inc.....Stamford, Conn.
DuPont Film Mfg. Corp.....New York City

E. & J. Co.....Philadelphia
Earnshaw Knitting Co.....Newton, Mass.
Eastman Kodak Co.....Rochester, N. Y.
Eisele & Co.....Nashville, Tenn.
Electro Surgical Inst. Co.....Rochester, N. Y.
Emerson Co., J. H.....Cambridge, Mass.
Endo Products, Inc.....Richmond Hill, N. Y.
Enochs Manufacturing Co.....Indianapolis

Fischer & Co., H. G.....Chicago
Flint, Eaton & Co.....Decatur, Ill.
Florida Citrus Commission.....Lakeland, Fla.
Foley Manufacturing Co.....Minneapolis
Foregger Co., Inc.....New York City
Fougera and Co., Inc., E.....New York City

Gastro-Photor Laboratories.....New York City
General Electric X-Ray Corp.....Chicago
General Foods.....New York City
General Mills, Inc.....Minneapolis
Gerber Products Company.....Fremont, Mich.
Gevaert Co. of America, Inc.....New York City
Gradwohl Laboratories.....St. Louis
Graham, H. L.....Dallas, Texas

Hamilton Mfg. Co.....Two Rivers, Wis.
Hanovia Chem. & Mfg. Co.....Newark, N. J.
Hansen's Lab. Inc., Chr.....Little Falls, N. Y.
Harold Surgical Corp.....New York City
Hawaiian Pineapple Co.....San Francisco
Heinz Co., H. J.....Pittsburgh
Herz-Lasher Corp.....New York City
Hoober, Inc., Paul B.....New York City
Hoffmann-LaRoche, Inc.....Nutley, N. J.
Holland-Rantos Co., Inc.....New York City
Hospital Liquids Inc.....Chicago
Humphreys Roentgen Co.....Aurora, Ill.
Hygeia.....Chicago
Hynson, Westcott & Dunning, Inc.....Baltimore

MEAD JOHNSON & CO.

Two new sizes of Pablum will be exhibited in Mead Johnson's display, Booths 338 and 339. The 1 lb.-3 oz. size (replacing the 1-lb. size) offers 3 extra ounces without additional charge. The new ½-lb. size is small enough to be grasped in one hand, convenient for traveling and is priced very reasonably. Stop in at the other Mead Johnson Booths, 131, 348 and 349.

MELLIN'S FOOD COMPANY

Come and bring your questions regarding the composition and usefulness of Mellin's Food to Booth 249. It is suggested that you will find as particularly interesting topics constipation in infancy and the preparation of nourishment for adult patients below normal as a result of prolonged illness or faulty diet.

M & R DIETETIC LABORATORIES, INC.

Similac, a completely modified milk for infants deprived either partially or entirely of breast feeding, will be displayed by M & R Dietetic Laboratories, Booth 267. Qualified representatives will gladly explain the value of the zero curd tension of Similac as it applies to both normal and special feeding cases. Visit Booth 267.

MULLER LABORATORIES

Mull-Soy will be displayed in Booth 296. The points of advantage of this soy bean milk-substitute in the diets of those persons who are allergic to cow's milk will be explained — as will the other uses for this interesting product. Diets and recipes will be available to all visiting physicians.

NATIONAL LIVESTOCK & MEAT BOARD
Booth 306

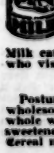
NESTLE'S MILK PRODUCTS, INC.

Nestle's Milk Products have arranged for a very attractive exhibit in Booth 327. Featured in their display will be Lactogen, which for 15 years has given successful results in infant feeding. Physicians interested in infant feeding are cordially invited to visit the Nestle Booth.

PENICK AND FORD, LTD., INC.

The makers of Brer Rabbit Molasses invite your consideration of new findings on this rich and inexpensive source of iron. Results of chemical and clinical research will be exhibited at Booth 335. Significant is the conclusive demonstration of high availability (over 80%) of molasses-iron, which establishes New Orleans Molasses as second only to beef liver as a food source of absorbable iron.

PET MILK CORPORATION



An actual working model of a milk condensing plant in miniature will be exhibited by the Pet Milk Company in Booth 111. This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk and its uses in infant feeding and general dietary practice. Miniature Pet Milk cans will be given to each physician who visits the Pet Milk booth.

POSTUM EXHIBIT

Postum will be served at Booth 62! This wholesome cereal beverage is made from whole wheat and bran, roasted and slightly sweetened. On exhibit in two forms—Postum Cereal made like coffee and Instant Postum made instantly in the cup or pot. Postum-made-with-milk is an easy way to keep milk interesting. Pause for Postum! You'll find it delicious, economical and easy to prepare!

DR. P. PHILLIPS CANNING CO.

Be sure to visit this exhibit in Booth 73 and sample the delicious Dr. Phillips Fruit Juices enriched with Dextrose food-energy sugar. You'll find a Florida atmosphere about this exhibit, typical of his famous citrus fruit groves in Orlando, Fla. Stop in and find out about these delicious fruit juices by testing a glass of golden orange or grapefruit juice.

SCIENTIFIC SUGARS CO.
Booth 83

S.M.A. CORPORATION

An exhibit sponsored by Biochemical Division of S.M.A. will occupy Booth 86 and will feature color slides illustrating clinical cases and pure substances used in their treatment. Next door in Booth 87, the Infant Food division of S.M.A. will be exhibiting their products, including S.M.A. Powder and Liquid, Hypo-Allergic Milk and Alerdex.

SUN-RAYED COMPANY

The producers of Kemp's Sun-Rayed Tomato Juice will have a glass of this cool, refreshing fruit juice waiting for you in Booth 56. Be sure to stop in and learn how their patented process secures the high retention of vitamins A and C in this delicious tomato juice.

UNITED FRUIT COMPANY

Important clinical and nutritional studies on the banana have been undertaken the past few years. These reports, now published, will be available for your inspection at this company's booth, 138. And you will be welcomed by representatives of the United Fruit Co. equipped to give you the latest authentic information.

VEGEX, INC. & VITAMIN FOOD CO., INC.
Booth 278

WIS. ALUMNI RESEARCH FOUNDATION

Last year at the New York World's Fair 100 days of the 185-day period were rainy, cloudy, or overcast. New York's average shows only 53 sunshiny days from May to October. These and many other facts relating to vitamin D deficiencies and irradiated vitamin D products will be featured at the Foundation's exhibit. All visiting physicians are very cordially invited to stop at Booths 15 and 16.

Medical Books

D. APPLETON-CENTURY CO., INC.
Booth 107

BLAKISTON COMPANY

Of practical interest to the general physician and specialist will be Blakiston's exhibit of new books and new editions in Booth 229. Included will be Osgood's Laboratory Diagnosis, 3rd Ed., Wright's Manual of Dermatology, Eilmann's Medicolegal and Industrial Toxicology, Whitby and Britton's Disorders of the Blood, 3rd Ed., and speciman sheets of several forthcoming books.

BOOKS OF UNIVERSITY PRESSES
Booth 370

F. A. DAVIS COMPANY

New Davis publications for you to look through, in Booth 260, will be: Reimann "Treatment in General Medicine," Piersol "The Cyclopedia of Medicine, Surgery and Specialties," Bland "Medical and Surgical Gynecology," Goldberg "Clinical Tuberculosis," Lederer "Ear, Nose and Throat," Robertson "Diagnostic Signs, Reflexes and Syndromes," Bland-Montgomery "Practical Obstetrics," Stroud "The Diagnosis and Treatment of Cardio-vascular Disease" — the first all-inclusive work on this very important branch of medicine.

PAUL B. HOEBER, INC.

Among the brand new Hoeber books to be shown are: Pack and Livingston's Treatment of Cancer, Alvarez' Introduction to Gastro-Enterology, Hassin's Histopathology of the Central and Peripheral Nervous System, Warren's Handbook of Skin Diseases and many others. All in all, the Hoeber exhibit promises to be an interesting one in which to browse. Booth 125.

LEA & FEBIGER

At Booth 117, Lea & Febiger will feature these new works: Adair's Obstetrics and Gynecology, Clement's Anesthesia, Comroe on Arthritis, Eller on Tumors of the Skin, Hayden on the Rectum and Colon, Lewin on the Foot and Ankle, Schwartz and Tulipan on Occupational Diseases of the Skin. Advance material will be shown on Anderson's Physical Diagnosis, Ballenger's Otology and Dennie and Pakula on Congenital Syphilis.

J. B. LIPPINCOTT COMPANY

Interesting Lippincott Publications on display in Booths 132 and 133 will be Kugelmass': "Newer Nutrition in Pediatric Practice" and Becker and Obermayer's: "Modern Dermatology and Syphilology." "Functional Disorders of the Chest" by Dickson and Diveley, and Leaman's brand new book, "Management of the Cardiac Patient." Other works will include Thorek's: "Modern Surgical Technic," Rigler's: "Outline of Roentgen Diagnosis," Barborka's: "Treatment by Diet" and many more.

MACMILLAN COMPANY

A new and different approach to the clinical application of biochemistry distinguishes the Bodansky's "Biochemistry of Disease." No less new in its vitality of approach is Holmes' "Bacillary and Rickettsial Infections." And you'll find S. Hohman's "As the Twig Is Bent" a refreshing, commonsense discussion of child-raising. These will be among the newer books on display at the Macmillan exhibit. Booth 213.

C. V. MOSBY COMPANY
Booth 230

THOMAS NELSON & SONS

Booth 299 will feature Nelson's display of loose-leaf medical publications. In addition to the well-known Loose-Leaf Medicine and Surgery, the publishers will also exhibit three new loose-leaf publications: Diagnostic Roentgenology, Surgery of the Ear, Medicine of the Ear and their new two-volume work, Specialties in Medical Practice.

OXFORD UNIVERSITY PRESS

Many recent Oxford publications will be displayed at Booth 369, including "Pulmonary Tuberculosis" by Kane, Pagel and O'Shaughnessy; "Tuberculosis of Bone and Joint" by Girdlestone; "Urine Examination and Clinical Interpretation" by Lukes and "Industrial Hygiene" by Lanza and Goldberg. Also Oxford Loose-Leaf Medicine — a collection of medical monographs of leading world authorities — edited by Dr. Henry A. Christian.

EXHIBITORS

International Cellucotton Prod. Co. ..... Chicago	Laco Products Inc. ..... Baltimore
International Vitamin Corp. ..... New York City	Lakeside Laboratories, Inc. ..... Milwaukee
Irrad. Evap. Milk Institute ..... Chicago	LaMotte Chemical Products Co. ..... Baltimore
Ivers-Lee Co. ..... Newark, N. J.	Lea & Febiger ..... Philadelphia
	Lederle Laboratories, Inc ..... New York City
Johnson & Johnson ..... New Brunswick, N. J.	Lepel High Frequency Labs. Inc. New York City
Jones Metabolism Equip. Co. ..... Chicago	Lewis Manufacturing Co. ..... Walpole, Mass.
Jordan Air & Suction Pump Co. ..... Kan. City, Mo.	Libby, McNeill & Libby ..... Chicago
Juvenile Wood Products, Inc. ..... Ft. Wayne, Ind.	Liebel-Flarsheim Co. ..... Cincinnati
	Lilly and Co., Eli ..... Indianapolis
Kelley-Koett Mfg. Co., Inc. ..... Covington, Ky.	Linde Air Products Co. ..... New York City
Keystone View Co. ..... Meadville, Pa.	Lippincott Co., J. B. ..... Philadelphia
Kitchen Kateh-All Corp. ..... Greenwich, Ohio	Luzier's, Inc. ..... Kansas City, Mo.
Kolynos Co. ..... Jersey City, N. J.	
	M & R Dietetic Labs. Inc. ..... Columbus, Ohio
	Machlett Laboratories, Inc. ..... Springdale, Conn.
	Macmillan Co. ..... New York City
	Malco Co., Inc. ..... Minneapolis
	Mallinckrodt Chemical Works ..... St. Louis
	Maltine Co. ..... New York City
	Marbel Blood Calculator Co. ..... Chicago
	Marcelle Cosmetics ..... Chicago
	Marvel X-Ray Products ..... Chicago
	Mattern Mfg. Co., F. ..... Chicago
	McCuskey Register Co. ..... Alliance, Ohio
	McIntosh Electrical Corp. ..... Chicago
	McKesson Appliance Co. ..... Toledo
	McKesson & Robbins, Inc. ..... New York City

W. F. PRIOR COMPANY, INCORPORATED
Booth 67

W. B. SAUNDERS COMPANY
Physicians are invited to look over Saunders' display of new books and new editions in Booths 129 and 130. Of special interest will be: Buckstein's "X-Ray of the Alimentary Tract," Wilder's "Diabetes Mellitus," Walters and Snell's "Diseases of the Gallbladder," a new edition of Levine's "Clinical Heart Disease," Hauser's "Diseases of the Foot" and many others, including such standard works as: "Surgical Clinics of North America" and Bickham's "Operative Surgery."

SURGERY, GYNECOLOGY AND OBSTETRICS
Pages from this journal for surgeons, exemplifying its contents, its superb typography and its beautiful illustrations, many of these in color, will be shown by means of "transalites." A robophone voice will briefly describe the purpose of the journal and the features which recommend it to more than 14,000 regular subscribers throughout the world. You are cordially invited to visit Booth 218.

CHARLES C. THOMAS, PUBLISHER
Booth 78

WILLIAMS & WILKINS COMPANY
Booth 134 will give most physicians their first opportunity to examine this firm's most important 1940 publication, Barr's Modern Medical Therapy, which has 106 contributors. All the famous William Wood books will be exhibited. New books will include Armstrong's Aviation Medicine; Brock's Injuries of Skull; Robbins' Cyclopropane Anesthesia and many others.

Office Furniture

W. D. ALLISON COMPANY
This year marks Allison's 56th year of manufacturing physicians' wooden office furniture. At their display in Booth 283A, you will see the representative line. Improvements which have been added will make a visit of inspection worthwhile.

DOMORE CHAIR COMPANY, INC.
A display of posture chairs for the executive, clerical and factory staffs will be seen in Booth 367. Of special interest will be the Triple Duty Executive models. Also notice the "Air-Duct" model, developed to promote coolness through evaporation of skin moisture. Your visit to the exhibit will be worthwhile.

HAMILTON MANUFACTURING CO.
In Booth 137, the Hamilton Manufacturing Co. will have out for display four of the latest designs in examining tables with matching instrument cabinets and treatment cabinets. The new extra large size DeLuxe table will be on actual exhibit. You are invited to inspect it personally.

EMIL J. PAIDAR COMPANY
Booth 309 deserves the attention of every physician interested in refitting his office. The Paidar Company will show two beautiful sets of furniture for the physician's office, both built of walnut and combining comfort with stability. Stop in and ask for suggestions for your office—or feel free to just look.

ROYAL METAL MANUFACTURING CO.

In addition to their Royalchrome seating for office and reception room, this firm will introduce a new line of furniture. It will consist of examination chairs, patients' couches, stool and side chairs and steel cabinets. Display pieces will be exhibited and full information available in Booth 362.

SHAMPAINE COMPANY
Booth 106

Pharmaceuticals and Biologicals

ABBOTT LABORATORIES
You are urged to drop in at Booths 233 and 234 and discuss with Abbott's trained representatives the newer products. Among the many such items on display are such new Council Accepted products as, Pentothal Sodium, Fungus Spore Extracts, Sulfanilamide Ampoules, Nicotinic Acid, Thiamin Chloride, etc. Your queries will be welcomed.

ALLEN LABORATORIES, INC.
To any physician concerned with the treatment of vaginal and cervical infections, Booth 145 will hold a special attraction. On exhibit will be Medipax Brand of Tampon Suppositories, a complete unit for prolonged contactual therapy of gynecologic conditions. Let the doctors in attendance explain Medipax advantages.

ARLINGTON CHEMICAL COMPANY
An inspection of Arlington's Protein and Pollen Products for the diagnosis and treatment of hayfever, asthma and other allergic conditions will prove worth your while. Each physician who visits their booth will be presented with a complimentary diagnostic pollen outfit for his area containing the common causative factors. Questions and discussion will be welcomed. Booth 24.

ARMOUR LABORATORIES
Standardized and biologically assayed, Council Accepted and U.S.P. products of animal origin will be featured at the Armour Booth, 55. Their various preparations will be explained by men experienced in clinical and biological research. A cordial invitation is extended to all A. M. A. members to visit the exhibit.

BILHUBER-KNOLL CORP.

Competent representatives of the Bilhuber-Knoll Corp. will be on deck in Booth 253 to discuss Metrazol and their other valuable medicaments. Such products include Dilaudid hydrochloride, a Council Accepted opiate; Bromural, sedative and hypnotic; Theocalcin, diuretic and myocardial stimulant; Euresol and Lenigallol for skin diseases.

CIBA PHARMACEUTICAL PRODUCTS
Physicians are cordially invited to visit the Ciba exhibit, Booth 247, where the Assistant Medical Director and representatives of the firm will be glad to answer questions about and discuss the well-known Ciba specialties. Among these are Digifoline, Dial, Lipoiodine, Nupercaine and Viaform. Your call will be welcomed.

CHURCH & DWIGHT CO., INC.

Representatives of the company will be on hand in Booth 136 to discuss Arm & Hammer Bicarbonate of Soda with you. They will tell you why the company—a pioneer in the business, can make this pure product available at such a low cost. Make it a point to stop in for a visit.

CUTTER LABORATORIES
Cutter Laboratories will feature their complete line of Council Accepted biologicals and allied specialties. Among the latter, Sobisminol Mass for oral adjuvant syphilis therapy and their line of dextrose and other solutions in the special Saftiflasks dispensing containers will be of particular interest. Booth 116.

DRUG PRODUCTS CO., INC.
You are invited to visit Booth 341 where The Drug Products Co. will exhibit Pulvoids Digitalis Folium, a mode of digitalis therapy biologically standardized by the Hatcher-Brody cat method, Pulvoids Sulfanilamide, and Hyposols Sodium Cacodylate. All Council-Accepted Products. Attendants will be pleased to explain Pulvoids method of manufacture.

FLINT, EATON & COMPANY
You will find an interesting display of Calcium-Gluconate-Effervescent (Flint) at Booth 337. On hand to greet you will be several members of their staff. They will be glad to discuss "Calcium Requirements" with you and likewise will be much interested in your experiences with the product. Complimentary souvenirs of the convention will be presented to registrants. Your visit will be anticipated.

E. FOUGERA & CO.
At Booth 64, E. Fougera & Co. will feature Lipiodol (Lafay) the original iodized oil. You can see how easily it is instilled into virtually every body cavity—yielding roentgenograms of superior definition and clarity. Lipiodol's many advantages will be described and explained.

HOSPITAL LIQUIDS, INC.
In Booth 66, you can test your stereopsis. Through the magic of the stereoscope, accurate three dimensional color photographs of their products and processes will be shown. Pyrogen and qualitative testing of their Council Accepted Intravenous Solutions in Filtrair Dispensers will be a feature of the Hospital Liquids exhibits this year—with an actual working model laboratory in Booth 283. Doctors are invited to both exhibits.

INTERNATIONAL VITAMIN CORP.
"The House of Vitamins" display this year at Booth 147 will feature the production of Vitamins A and D from fish liver oil by the Marcus Process, together with a complete showing of I. V. C. Council Accepted products. A unique key ring and automobile license holder will be given free to every physician who registers at the I. V. C. Booth.

EXHIBITORS

Mead Johnson & Co.....Evansville, Ind.	Mosby Co., C. V.....St. Louis	Ohio Chemical & Mfg. Co.....Cleveland
Mechanical Laboratories, Inc.....Miami, Fla.	Mueller & Co., V.....Chicago	Oldsmobile.....Lansing, Mich.
Medical Bureau.....Chicago	Muller Laboratories.....Baltimore	O'Leary Inc., Lydia.....New York City
Medical Case History Bureau....New York City	Multifil, Inc.....New York City	Oxford University Press.....New York City
Medical Film Guild.....New York City		
Medicalite Co., Inc.....New York City	National Drug Co.....Philadelphia	Paidar Co., Emil J.....Chicago
Mellin's Food Co.....Boston	National Elec. Inst. Co. Inc...Long Island City	Parke, Davis & Co.....Detroit
Mennen Co.....Newark, N. J.	National Live Stock & Meat Board.....Chicago	Patch Co., E. L.....Boston
Merck & Co. Inc.....Rahway, N. J.	National X-Ray Surveys, Inc.....Orange, N. J.	Patterson Screen Co.....Towanda, Pa.
Merrell Company, Wm. S.....Cincinnati	Nelson & Sons, Thomas.....New York City	Pelton & Crane Co.....Detroit
Meth Mfg. Co.....Philadelphia	Nestlé's Milk Products, Inc.....New York City	Penick & Ford, Ltd., Inc.....New York City
Meyer Co., Wm.....Chicago	New York Medical Exchange....New York City	Pet Milk Co.....St. Louis
Meyrowitz Surg. Inst. Co., E. B...New York City	Nu-Hestive, Inc.....Leominster, Mass.	Petrolagar Laboratories, Inc.....Chicago

LAKESIDE LABORATORIES, INC.

Lakeside's Council-Accepted ampoule medications will be exhibited in Booth 124. Members of the research staff will be present to discuss the chemical, bacteriological and physiological control methods used to insure purity, sterility and safety. Your visit will be welcomed.

LEDERLE LABORATORIES, INC.

Anemia, pneumonia and hay fever will be the subjects covered in the Lederle Exhibit, Booths 108 and 109. Approved diagnosis and therapy will be graphically illustrated. A colorful reproduction of the new Lederle diagnostic package showing actual color drawings of the offending pollens by zones in full color transparencies will be automatically lighted showing simultaneously boundary zone, nomenclature and plant. A Lederle staff physician will be in charge.

ELI LILLY AND COMPANY

Lilly this year will center their exhibit around a demonstration of the method for testing "Merthiolate" (Sodium Ethyl Mercuri Thiosalicylate, Lilly) and other antiseptics. This should be interesting to all physicians. A display of other important Lilly products will be attractively presented in Booths 226, 227 and 228. Visit all these booths and discuss your problems with the attendants.

LINDE AIR PRODUCTS COMPANY

A composite picture of present day oxygen therapy will be presented in Booth 114. The exhibit will feature an actual piping system carrying oxygen from a central supply source of ten manifold cylinders of Linde Oxygen U.S.P. to a number of standard wall outlet valves. The new Linde L-14 Oxygen Therapy Station Flowmeter and the Linde R-50 Oxygen Therapy Regulator will also be displayed.

McKESSON & ROBBINS, INC.

McKesson vitamin and drug products will be featured in Booth 149. Of particular interest to the physician will be an educational exhibit in pictures, showing the work carried on at the company's research and manufacturing plant. The director of laboratory research will be in charge, assisted by the members of the laboratory staff.

MALLINCKRODT CHEMICAL WORKS

You are invited to visit Booth 286 and to discuss questions relative to the chemicals on display or other products bearing the Mallinckrodt label. A limited number of photographic chemicals will be exhibited along with the usual U.S.P. chemicals, specialty items and reagent chemicals.

MALTINE COMPANY

Booth 144, occupied by the Maltine Co., will feature Maltine with Cod Liver Oil. Sixty-five years of research and experiment have gone into the development of all Maltine products, including the Council-Accepted Maltine Plain, Maltine with Cod Liver Oil and Maltine with Cod Liver Oil and Iron Iodide. A visit to this booth will give you confidence in the high quality and natural vitamin content of their products.

MERCK & COMPANY

The central theme of the Merck display, Booths 279 and 280, will have featured vitamins of the B complex, surmounted by an enlarged vitamin B_1 crystal. The flanking panels will display other Merck vitamin products and sulfanilamide preparations. Merck medicinal specialties and prescription chemicals will be demonstrated.

WM. S. MERRELL COMPANY

The Merrell Company invites you to drop in at Booth 248 and leave your name for interesting literature. Featured at this exhibit will be the topical anesthetic, Diothane Hydrochloride.

NATIONAL DRUG COMPANY

Rhus Tox Antigens and Pollen Antigens will be prominently featured at Booth 127. Members of the Research and Swiftwater Biological Laboratories staffs will be in attendance to demonstrate and discuss the various phases of National biological, biochemical and pharmaceutical products.

PARKE, DAVIS COMPANY

Featured in the Parke-Davis Exhibit will be the sex hormones, Theelin and Theelol; antisyphilitic agents such as Mapharsen and Thio-Bismol; posterior lobe preparations, including Pituitrin, Pitocin and Pitressin; and various adrenalin chloride preparations. Booths 36 and 37.

E. L. PATCH COMPANY

The romance of cod liver oil as depicted by a photomontage will be unfolded at the interesting exhibit of the Patch Company in Booth 285. For years cod liver oil has been one of the most widely dependable sources of natural vitamins A and D, and Patch's Cod Liver Oil has a very high potency of both vitamins A and D. They invite your inspection of their exhibit.

PETROLAGAR LABORATORIES, INC.

Company representatives at the Petrolagar exhibit will have something "new" for visitors at Booth 85. New literature, recent developments and new ideas on the use of the five types of Petrolagar in the treatment of constipation. According to reports, you will want to make this one of your "must" stops during the convention.

PURITAN COMPRESSED GAS CORPORATION

Save yourself a few minutes for a visit to Booth 45 where you will find an interesting exhibit of Puritan Maid medical gases and a complete line of gas equipment. Of particular interest will be the new Puritan Mask and Bag and two-stage pressure regulator which have been found to be widely adaptable for use in inhalation gas therapy. Ask for their catalog 37.

RIEDEL-de HAEN, INC.

Their exhibit in Booth 68 will present Decholin and Decholin sodium, which are Council Accepted chemically pure bile acid derivatives. Physicians are invited to register for their copy of the new 3rd edition of the brochure, "Biliary Tract Disturbances." Competent representatives will be there to discuss particular problems regarding hepatic and biliary tract disorders.

SANDOZ CHEMICAL WORKS, INC.

Among the Council-Accepted pharmaceuticals of Sandoz in Booth 38, special attention will be focused on Gynergen (ergotamine tartrate) extensively employed for the dramatic relief of migraine and uterine hemostasis; the gluconate preparation of calcium (Calglucon) whose advantages for oral, intramuscular and intravenous calcium therapy were developed in the Sandoz Research Laboratories; Scillaren and Scillaren-B, dependable cardiodiuretics; and Sandoptal, an efficient hypnotic.

SCHERING CORPORATION

New machines and technique for ampule preparation will be demonstrated at the Schering exhibit. Radiopaque media for use in urologic diagnosis will be shown, and visualization of the urinary tract by both excretory and retrograde methods to reveal details of its anatomy and functions will be discussed. All in Booth 292 A.

SCHERING & GLATZ, INC.
Booth 94

G. D. SEARLE & CO.

The "Phantascope" will be the feature of the Searle exhibit, Booth 292. This ingenious device, developed by Dr. George Levene of the Massachusetts Memorial Hospitals, Boston, graphically portrays in motion various typical pathologic alterations in cardiac contour and rhythm. Several members of the Searle Medical Service Department will be on hand to discuss products of their research laboratories.

SHARK INDUSTRIES, INC.
Booth 242

SHARP & DOHME, INC.

The big attraction at the Sharp & Dohme display this year will be Propadrine Hydrochloride. In addition to this well-known bronchodilator and local vasoconstrictor, there will be on display other items of interest in both the pharmaceutical and biological field. All physicians are cordially invited to visit Booths 352, 353, and 354. Competent, well-informed representatives will be on hand to furnish information.

SMITH-DORSEY COMPANY

Physicians are cordially invited to visit The Smith-Dorsey Booth 290, where they will find on display chocolate flavored Emulsion Liquid Petrolatum and other Council Accepted products. Representatives in charge of the exhibit will be glad to furnish full information about products shown.

SMITH, KLINE & FRENCH LABORATORIES

This company's exhibit, Booth 121, will be arranged for self-service. No registration required. Up to date information on Benzedrine Inhaler, Benzedrine Sulfate Tablets, Benzedrine Solution and Penitrate may be obtained in convenient envelopes from literature dispensers. Additional data will be supplied by company representatives.

E. R. SQUIBB & SONS

Something new in technical exhibits awaits you at the Squibb booths. The physician interested in the sex hormones, the treatment of syphilis, pneumonia, or in certain vital problems in anesthesia, should be sure to see the new Squibb exhibit specially designed and constructed for this session. Booths 98, 99, 100, 101, main floor.

FREDERICK STEARNS & COMPANY

Doctors are cordially invited to visit Booth 34 to view and discuss Stearns' contributions to medical science. All possible information on the use of such products as Neo-Synephrin Hydrochloride for intranasal use and Sterile Solution for parenteral use in acute hypotension and spinal anesthesia will be supplied. Also available will be information on Gastric-Mucin-Stearns, Appella Apple Powder-Stearns and other products.

WALLACE & TIERNAN PRODUCTS, INC.
Booth 200

WHITE LABORATORIES, INC.

Well-trained representatives of White Laboratories will be on hand in Booth 293 to present and discuss with you Council-Accepted White's Cod Liver Oil Concentrate (liquid, tablets and capsules). Other information regarding the vitamin field will be available, too.

EXHIBITORS

Pfaltz & Bauer, Inc. ..... New York City	Radium Emanation Corp. ..... New York City	Schering Corp. ..... Bloomfield, N. J.
Philip Morris & Co. Ltd. Inc. ..... New York City	Remington Rand Inc. ..... Buffalo	Schering & Glatz, Inc. ..... New York City
Philips Metalix Corp. ..... New York City	Riedel-de Haen, Inc. ..... New York City	Scientific Sugars Co. ..... Columbus, Ind.
Phillips Canning Co., Dr P. ..... Orlando, Fla.	Ritter Dental Mfg. Company ... Rochester, N. Y.	Sealright Co., Inc. ..... Fulton, N.Y.
Picker X-Ray Corporation ..... New York City	Rose Mfg. Co., Inc., E. J. ..... Los Angeles	Searle & Co., G. D. ..... Chicago
Pilling & Son Co., Geo. P. ..... Philadelphia	Royal Metal Mfg. Co. ..... Chicago	Selby Shoe Co. ..... Portsmouth, Ohio
Prior Co., Inc., W. P. ..... Hagerstown, Md.		Shampaine Co. ..... St. Louis
Prometheus Electric Corp. ..... New York City	S. M. A. Corp. ..... Chicago	Shark Industries, Inc. ..... Hollywood, Fla.
Pronto Add. & Mail. Serv., Inc. .New York City	Safety Gas Machine Co., Inc. ..... Chicago	Sharp & Dohme ..... Philadelphia
Puritan Compressed Gas. Corp. Kansas City, Mo.	Sanborn Co. ..... Cambridge, Mass.	Siebrandt Mfg. Co., J. R. ..... Kansas City, Mo.
Pyramid Rubber Co. ..... Ravenna, Ohio	Sandoz Chemical Works, Inc. ..... New York City	Sklar Mfg. Co., J. ..... Brooklyn
	Saunders Co., W. B. ..... Philadelphia	Smith-Dorsey Co. ..... Lincoln, Neb.
Radium Chemical Co., Inc. ..... New York City	Scanlan-Morris Co. ..... Madison, Wis.	Smith, Kline & French Labs. ..... Philadelphia

WINTHROP CHEMICAL COMPANY, INC.

Something new in pharmaceutical displays is contemplated by Winthrop Chemical Company, Inc., Booths 224 and 225. A fascinating motion device, combined with impressionistic photography, will call attention to a number of important therapeutic agents. A sidelight of interest to philatelists will be an array of handsome medical medical stamps.

JOHN WYETH & BROTHER, INC.

Here's a cordial invitation from John Wyeth and Brother for you to visit their Booths 236 and 237, where Dean Cornwell's two heroic paintings will be on display. In addition to the canvas "Beaumont and St. Martin," the first showing of the new painting, "Osler at Old Blockley," will be made. These paintings are the first two in a series "Pioneers of American Medicine."

ADLANCO X-RAY CORPORATION
Booth 310

AGFA ANSCO
Booth 355

BEDFORD SURGICAL COMPANY

X-ray and other equipment—the complete line of Continental products, will be shown in Booths 216 and 217. Be sure to see the new streamlined shockproof fluoroscope—also the new 100/100 tilt-table combination x-ray and fluoroscope, using only one tube.

J. BEEBER COMPANY
Booths 2 and 3

BURDICK CORPORATION

Burdick's complete line of modern physical therapy equipment will be featured in Booth 202. This will include Short Wave Diathermy Units, Fever Therapy Cabinets, Ultraviolet and Infra-Red Lamps. The Rhythmic Constrictor for the treatment of peripheral vascular disease will also be featured as will the new combination Radiographic and Fluoroscopic X-Ray Unit.

WARREN E. COLLINS, INC.
Booth 141

COLUMBIAN STEEL TANK COMPANY

The Columbian Respirator, recently Council-Accepted, will be the feature exhibit in Booth 350. And even a cursory inspection will reveal several improvements. The new principle for controlling vacuum and pressure called a "liquid sealed air pump" is incorporated. Powered by a one-sixth horse power motor—it provides from 10 to 30 respirations per minute. Come in and see it yourself.

DU PONT FILM MANUFACTURING CO.

Du Pont will exhibit special radiographs and discuss any radiographic or photographic or allied problems with you. Physicians and their friends are urged to visit Booth 259.

EASTMAN KODAK COMPANY

Besides featuring a collection of radiographs, Eastman will run in Booth 231 colored Kodachrome film on medical and other subjects. In addition, there will be a large display of clinical subjects in the form of transparencies and prints employing the Wash-off Relief Process. Technical representatives will be in attendance to answer your questions.

E & J MANUFACTURING CO.

Latest improvements to the E & J Resuscitator in ease of operation will make it well worth a visit of inspection. Movement of just one lever makes Aspirator, Resuscitator or Inhalator immediately available in the one device. You will agree the triple duty performance of the apparatus greatly advances the scientific treatment and control of asphyxia. See this combination appliance on display at Booth 146.

H. G. FISCHER & CO.

Improved performance and reduced installation costs are just two of the outstanding features of Fischer's 1940 x-ray and short wave apparatus. You are cordially invited to stop by and inspect the H. G. Fischer & Co. display in Booth 336. Questions will be answered frankly and without obligation on your part.

J. H. EMERSON COMPANY

Have a look into Booth 90 to see the newest model Emerson Respirator. You will note that it's equipped with a recently developed alarm for giving warning if the respirator ceases to function for any reason. Other new features developed by Emerson will also be pointed out.

GENERAL ELECTRIC X-RAY CORPORATION

The G-E exhibit will offer a fine opportunity to discuss your particular interest in x-ray equipment—from the G-E office-portable diagnostic unit up to the million volt equipment for roentgen therapy. Drop in Booths 4, 5 and 6 and get first hand information on the G-E Inductotherm, Fever Cabinet, Ultraviolet and Infra-Red Lamps, and other electrotherapeutic devices.

GEVAERT COMPANY OF AMERICA, INC.

Gevaert's exhibit comprises a showing of their latest developments for x-ray films. These exhibits are on two types of film—Screen and Screenless. Also shown will be photographic products of general interest to amateur photographers. Stop by Booth 43.

HANOVIA CHEMICAL AND MFG. CO.

Courteous and competent representatives will be on hand to welcome you to the Hanovia exhibit, Booth 347. On display will be the very latest self-lighting ultra-violet hot quartz lamps, sollux radiant heat lamps, short wave and ultra short wave apparatus. Don't miss the interesting fluorescence display!

HUMPHREYS ROENTGEN COMPANY

You will be interested in seeing the new motor driven radiographic and fluoroscopic table to be shown in Humphreys' exhibit, Booths 48 and 49. Along with the new development, improved models in the self-contained shockproof models will be shown. You will also see a new tube stand displayed.

KELLEY-KOETT MFG. CO., INC.
Booths 26, 27, 30 and 31

LEPEL HIGH FREQUENCY LABORATORIES

Latest models of the Lepel Short Wave Generators, both the spark gap operated and tube operated types, will be on display in Booth 250. In addition, other new and useful physiotherapeutic apparatus will be shown. All members of the A. M. A. are cordially invited to visit this exhibit.

LIEBEL-FLARSHEIM CO.

You will have the opportunity to see the complete line of L-F Short Wave Generators as well as the famous Bovie Electro-Surgical Units. Other new and useful physio-therapy apparatus will also be shown and demonstrated for you, too. Visit the Liebel-Flarsheim booth, 210.

McINTOSH ELECTRICAL COMPANY

Old customers and friends of the McIntosh Co. will find a cordial welcome in Booth 208. Here on display will be the latest models of Hogan Brevatherm short wave diathermy apparatus, the new model Polysine Generator, the Sinustat galvanic and sinusoidal unit, and Biolite infra-red generators and accessories.

MACHLETT LABORATORIES, INC.

X-Ray tube engineering for 1940, as advanced by Machlett, will be featured at Booths 282 and 283. A comprehensive exhibit of Machlett Tubes will include most recent improvements in shockproof, diagnostic and therapy tubes: Thermax, the shockproof tube for intermediate and superficial therapy and diagnostic; the Aeromax, radiographic, fluoroscopic and superficial therapy tube; and notably, the Rotating-Anode Dynamax Tube.

MARVEL X-RAY PRODUCTS
Booth 221

F. MATTERN MANUFACTURING CO.

A display of the "Series MX" X-Ray will make a visit to Booths 1 and 2 of great interest. See its new modern floor panel control. Also plan to inspect the Model "RS," combination radiographic and therapy unit; Model "SVP" Vertical Fluoroscope-Portable Unit and the combination "SRP" Unit. Demonstrations will be given.

METH MANUFACTURING COMPANY
Booth 334

NATIONAL X-RAY SURVEYS, INC.
Booth 310

WILLIAM MEYER COMPANY
Booth 246

PATTERSON SCREEN COMPANY

Patterson's well known fluoroscopic and intensifying screens will be on display in Booth 261. Attendants in charge will be prepared to discuss the attributes of the various screens, making recommendations for the type of screen best suited to the specifications. Feel free to discuss problems and troubles or to get information regarding screens and method.

PHILIPS METALIX CORPORATION
Booth 33

PICKER X-RAY CORPORATION

Save a little time to inspect the Picker x-ray apparatus in Booths 251 and 253. On display will be the Picker-Waite Series "300" shockproof x-ray unit with motor-driven tilting table; the Picker-Waite "Century," a complete 100 MA. 100 P.Kv. shockproof unit, the Picker-Waite Vertical Monitor Control and the Picker-Waite Dual column portable-mobile unit. Your questions will be welcomed.

RADIUM CHEMICAL COMPANY, INC.

An exhibit of their instruments for the handling and application of radium and radon will point up the attractive new features. Representatives in attendance at

(Continued on advertising page 77)

EXHIBITORS

Smith & Nephew, Inc.	New York City
Sonotone Corporation	Elmsford, N. Y.
Spencer Corset Co., Inc.	New Haven, Conn.
Spencer Lens Co.	Buffalo
Squibb & Sons, E. R.	New York City
Standard X-Ray Co.	Chicago
Stearns & Co., Frederick	Detroit
Storz Instrument Co.	St. Louis
Sun Rayed Co.	Frankfort, Ind.
Surgical Publishing Co.	Chicago
Tampax Incorporated	New York City
Taylor Instrument Co.	Rochester, N. Y.
Thomas, Publisher, Charles C.	Springfield, Ill.
U. M. A. Inc.	New York City
Union Carbide Co.	New York City
United Fruit Co.	Boston
Universal Cotton Prod. Corp.	Hollywood, Calif.
Vegex, Inc. & Vitamin Food Co.	New York City
Wallace & Tiernan Prod. Inc.	Belleville, N. J.
Warren-Knight Co.	Philadelphia
Weco Products Co.	Chicago
Welch Allyn Co.	Auburn, N. Y.
Westinghouse X-Ray Co., Inc.	Long Island City
White Laboratories, Inc.	Newark, N. J.
Williams & Wilkins Co.	Baltimore
Wilson Rubber Co.	Canton, Ohio
Winthrop Chemical Co., Inc.	New York City
Wisconsin Alumni Research Found.	Madison, Wis.
Wolf X-Ray Products, Inc.	New York City
Wright & Co. Inc., E. T.	Rockland, Mass.
Wyeth & Brother, Inc., John	Philadelphia
Zimmer Mfg. Co.	Warsaw, Ind.

OFFICIAL NOTES

ADDRESSES BY OFFICIAL STAFF

DR. PAUL C. BARTON:

May 29—George Williams College, Chicago.

DR. W. W. BAUER:

May 6—Buncombe County Medical Society, Asheville, N. C.
May 8—State and Provincial Health Authorities, Washington, D. C.
May 11—American Scientific Congress, Washington, D. C.
May 14—Schurz Tri-Hi-Y, Chicago.
May 24—Georgia Public Health Association, Atlanta.
May 27—South Carolina Public Health Association, Myrtle Beach.

DR. MORRIS FISHBEIN:

May 6—Women's City Club, Hamilton, Ohio.
May 7—Johns Hopkins Supper Club and Public Meeting, Baltimore.
May 9—American Drug Manufacturers Association, White Sulphur Springs, W. Va.
May 14—Pharmacopeial Convention, Washington, D. C.
May 16—Welfare Fund, Milwaukee.
May 21—Nurses' Graduation, Mount Sinai Hospital, Chicago.
May 22—B'nai B'rith, Chicago.
May 23—Tenth District Medical Society, Hammond, Ind.
May 24—Nurses' Graduation, City Hospital, Indianapolis.
May 25—Prairie Club, Des Moines, Iowa.
May 27—Knife and Fork Club, Oklahoma City.
May 28—Knife and Fork Club, Fort Worth, Texas.

DR. EDWIN P. JORDAN:

May 24—Will-Grundy County Medical Society, Louis Joliet Hotel, Joliet, Ill.

DR. NATHAN B. VAN ETTEN:

May 4—Morrisania City Hospital, New York.
May 7—Medical Society of the State of New York, New York.
May 11—American Scientific Congress, Washington, D. C.
May 14—New Hampshire Medical Society, Concord.
May 22—Illinois State Medical Society, Peoria.
May 28—Association for the Advancement of Professional Pharmacy, New York.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—The Senate Committee on Education and Labor, April 23, unanimously approved a revised Wagner-George hospital construction and maintenance bill. The bill, it is understood, proposes a six year program and that total federal appropriations of $63,000,000 will be authorized. S. 1461 has passed the Senate, proposing that retired enlisted men of the Army, Navy, Marine Corps and Coast Guard when hospitalized or domiciled in either an Army or Navy hospital or United States Naval or United States Soldiers' Home shall be extended treatment or domiciliary care without cost. S. 3607 has been reported to the Senate, proposing a federal appropriation of $75,000 for the fiscal year ending June 30, 1941, and for the five succeeding fiscal years federal appropriations increased at the rate of $10,000 for each year, for use by the Public Health Service in conducting researches, investigations, experiments and studies relating to the cause, diagnosis and treatment of dental diseases, and to foster similar research activities by other agencies.

Bills Introduced.—S. 3825, introduced by Senator McNary, Oregon, proposes to amend the Internal Revenue Code to impose a tax of $20 per pound on santonin and its salts. S. 3838, introduced by Senator Walsh, Massachusetts, proposes to establish in the Department of Labor a Bureau for the Welfare of the Deaf. H. J. Res. 520, introduced by Representative Hennings, Missouri, proposes the issuance of a special postage stamp in honor of Florence Nightingale and the nursing profession. H. R. 9485, introduced, by request, by Representative McCormack, Massachusetts, would authorize the Administrator of Veterans' Affairs to furnish domiciliary and hospital care and medical treatment to World War veterans of the United States Merchant Marine. H. R. 9510, introduced by Representative Peterson, Florida, proposes to grant marine hospitalization benefits to persons engaged in sponge diving.

DISTRICT OF COLUMBIA

Changes in Status.—H. R. 7865 has passed the House, proposing to regulate the practice of dentistry in the District of Columbia. H. R. 8692 has passed the House, proposing to enact a new podiatry act for the District of Columbia. H. R. 9284 has passed the House, directing the Commission on Licensure to Practice the Healing Art in the District of Columbia to issue a license to practice the healing art to Dr. A. L. Ridings.

Bill Introduced.—H. R. 9525, introduced by Representative Kennedy, Maryland, proposes to reorganize the government of the District of Columbia. The bill provides among other things that, in selecting a health officer for the District, the commissioners may request the President of the United States to designate an officer from among the medical officers of the United States Army Medical Corps, the United States Navy Medical Corps or the United States Public Health Service Corps. The bill also proposes to abolish the office of coroner and to establish the office of medical examiner to function under the direction of a chief medical examiner, appointed by the commissioners, who must be a doctor of medicine and a skilled pathologist with not less than two years' actual experience as a pathologist. A new license department will be created, it is proposed, on which will be devolved the duties heretofore exercised by various boards, departments, officers, and commissions, including the Commission on Licensure to Practice the Healing Art. The commissioners of the District will be authorized to appoint the licensing and examining boards.

STATE MEDICAL LEGISLATION

Mississippi

Bills Passed.—H. 1046 passed the House, April 25, proposing to appropriate $650,000 to be disbursed to approved hospitals caring for the indigent sick in counties in which no state supported charity hospital is operated. The bill proposes also to appropriate the following sums to the state charity hospitals indicated: South Mississippi $67,500, Matty Hersee $67,500, Jackson $67,500, Vicksburg $62,500 and Natchez $52,500. H. 1052 passed the House, April 26, proposing to authorize a levy in the city of Laurel of a tax on all taxable property, not exceeding one-half mill, to help support and maintain the South Mississippi Charity Hospital.

Bills Introduced.—H. 961 proposes to appropriate $25,000 "for the purpose of purchasing land, buildings, repairing, remodeling, constructing and equipping the North Mississippi Charity Hospital." H. 987 proposes to require state charity hospitals to provide at least ten beds to be used exclusively for maternity cases. H. 1053 proposes to authorize the board of supervisors of Jones County to levy a countywide tax on all taxable property, not exceeding one-half mill, for the purpose of helping to support and maintain the South Mississippi Charity Hospital.

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Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CALIFORNIA

Refresher Course on Chronic Diseases.—The University of California Medical School, San Francisco, will offer a refresher course for graduate physicians, June 3-6, on "Various Aspects of Chronic Diseases." The course will include a discussion of the problems of cancer, heart disease, arthritis, kidney disease, mental disease and tuberculosis. Additional information may be obtained from the dean's office.

Rockefeller Gift to Build Cyclotron.—The Rockefeller Foundation has given $1,150,000 to the University of California, Berkeley, to construct a 4,900 ton cyclotron, according to the New York *Times*. The gift was made contingent on the university's success in raising $250,000 and construction must be completed by June 30, 1944. According to the *Times*, the proposed machine will produce energies in excess of 100,000,000 volts, compared with the 33,000,000 volt apparatus with which Ernest O. Lawrence, Ph.D., director of the university's radiation laboratory, explored the field of atomic energy and won the 1939 Nobel Prize for physics. The present apparatus at the university has a 60 inch magnet and cost $80,000, while the new machine will have a 184 inch magnet.

State Medical Meeting at Coronado.—The sixty-ninth annual session of the California Medical Association will be held at the Hotel Del Coronado, Coronado, May 6-9, under the presidency of Dr. Charles A. Dukes, Oakland. The address of welcome opening the first general meeting will be delivered by Dr. Joseph Weinberger, San Diego, president of the San Diego County Medical Society. Among the out of state speakers will be:

Dr. Edward H. Rynearson, Rochester, Minn., Endocrinology: A Critical Appraisal.
Dr. Isidor S. Ravdin, Philadelphia, Factors Involved in the Care of the Patient Seriously Ill with Liver Disease.
Dr. Emery A. Rovenstine, New York, Treatment of Poisoning from Hypnotics.
Dr. Winfred H. Buuermann, Portland, Ore., Seven Years of Operation of the Multnomah Medical Service Bureau.

The program includes symposiums on biliary tract disease, convulsive states, analgesia and anesthesia in obstetrics, eczema of infancy and early childhood, and plastic surgery in the field of industrial surgery. In addition, many papers will be presented by California physicians. The cancer commission of the California Medical Association will hold a pathologic and radiologic conference, the program including round table discussions of malignant and premalignant disease of the rectum and anus and of the large intestine. Other conferences will deal with pathologic conditions of the skin and of the heart. The annual conference of secretaries of component county medical societies will be held Sunday May 5.

COLORADO

Clinics at Grand Junction.—The Mesa County Medical Society conducted spring clinics in Grand Junction, April 13-14. Included among the speakers were:

Dr. Constantine F. Kemper, Denver, Newer Procedures in the Diagnosis and Treatment of Ductless Gland Diseases.
Dr. Casper F. Hegner, Denver, Indications for Surgical Collapse in Pulmonary Tuberculosis.
Dr. George Gill Richards, Salt Lake City, Postoperative Tetany.
Dr. Harold T. Low, Pueblo, Gastro-Intestinal Symptoms of Genito-Urinary Tract Pathology.
Dr. Harold R. McKeen, Denver, Incidence of Perforated Peptic Ulcer in Industry.
Dr. Rex L. Murphy, Denver, Present Status of Sinus Disease.

CONNECTICUT

State Medical Meeting at Hartford.—The one hundred and forty-eighth annual meeting of the Connecticut State Medical Society will be held at the Hotel Bond, Hartford, May 22, under the presidency of Dr. Joseph I. Linde, New Haven. Included among the out of state speakers will be:

Dr. Lee E. Farr, New York, Indications for Therapeutic Use of Intravenous Amino Acids.
Dr. Harold F. Bishop, Valhalla, N. Y., Survey of the Anesthesia Service at Grasslands Hospital, 1938 to 1940.
Dr. Loudon Corsan Reid, New York, Anesthesia in Relation to Cardiac Disease.
Dr. James C. White, Boston, Injection of Procaine and Alcohol in the Diagnosis and Treatment of Intractable Visceral Pain.
Dr. Philip D. Wilson, New York, Modern Treatment of Low Back Pain and Sciatica.
Dr. Albert D. Ruedemann, Cleveland, End Results of Eye Muscle Surgery.
Dr. Frederick M. Law, New York, Difficulties in Interpretation of Nasal Accessory Roentgenograms.
Dr. Isidore Friesner, New York, An Analysis of Fundus Changes in Sinus Thrombosis.
Dr. Louis E. Phaneuf, Boston, Manchester Operation in the Treatment of Uterine Prolapse.
Dr. George E. Binkley, New York, Role of Radiation Therapy in Treatment of Rectal Cancer.
Dr. Richard Schatzki, Boston, Roentgenologic Examination in Hemorrhage from the Upper Gastro-Intestinal Tract.

Dr. Haven Emerson, New York, will be the speaker at the annual dinner Wednesday evening. At a meeting of the Hezekiah Beardsley Pediatric Club, Dr. Paul D. White, Boston, will be a guest. The speakers will include Drs. Katherine G. Dodge, New York, on "Preventive Aspects of Heart Disease in Children," and Chris H. Neuswanger, Waterbury, "Congenital Urological Anomalies." Other guest speakers on the general program will include Drs. William S. McCann, Rochester, N. Y.; Foster S. Kellogg, Boston; Thomas Grier Miller and George P. Müller, Philadelphia.

FLORIDA

Personal.—Dr. Isaac W. Chandler, Avon Park, has been appointed a member of the state board of medical examiners. ——Dr. Charles Lancaster Clay, Boston, has been appointed superintendent of the Jackson Memorial Hospital, Miami, to succeed Dr. Robert C. Woodard, who is retiring.——Dr. Carrol T. Bowen, Miami, has been appointed in charge of the division of venereal disease control of the Duval County Health Unit.

Society News.—Dr. John T. Ellis, Dothan, Ala., addressed the Franklin-Gulf County Medical Society recently on "Fractures of the Spine."——At a recent meeting of the Washington-Holmes County Medical Society and members of the medical profession in northwestern Florida and Dothan, Ala., in Chipley, the speakers were Drs. Theron K. McFatter, Dothan, on "Sulfapyridine and Pneumonia"; John Samuel Turberville, Century, "Organized Medicine," and John A. Keyton, Dothan, "Ethics and Medicine."——The Duval County Medical Society was addressed, April 2, by Drs. Harry B. McEuen, Jacksonville, on "X-Ray Treatment of Cancer, Metastases and Recurrence," and Thomas H. Lipscomb, Jacksonville, "Advances in Diagnostic Roentgenology."

GEORGIA

District Meeting.—The spring meeting of the Fifth District Medical Society was held at the Academy of Medicine, Atlanta, March 29. Addresses were given by Drs. Charles E. Rushin, Atlanta, and William H. Myers, Savannah, presidents of the Fulton County Medical Society and the Medical Association of Georgia respectively. The speakers included Drs. Lloyd F. Craver, New York, on "Lymphomas" and Adrian Lambert, New York, "Surgery in Diseases of the Chest."

In Memory of Dr. Crawford Long.—The memory of Dr. Crawford W. Long, discoverer of ether anesthesia, was honored at a meeting in Jefferson, April 8, held in conjunction with the first day sale of the Dr. Crawford W. Long 2 cent "Famous Americans" postage stamp. The guest of honor was Mrs. Eugenia Long Harper, College Park, the only living child of Dr. Long. She is 85 years old. Participating in the program were Governor E. D. Rivers; Senator Richard B. Russell; Dr. William H. Myers, Savannah, president, Medical Association of Georgia; Dr. Frank K. Boland, Atlanta, president, Crawford W. Long Memorial Association; Harmon W. Caldwell, LL.D., president, University of Georgia, Athens, and Harvey W. Cox, L.H.D., president of Emory University. Floats in a parade depicted the life of Dr. Long.

ILLINOIS

Society News.—Dr. Lorin D. Whittaker, Peoria, discussed "Certain Aspects of Thyroid Disease" before the Peoria Medical Society, April 16.——Dr. Manuel E. Lichtenstein, Chicago, addressed the McLean County Medical Society in Bloomington, April 9, on "The Basis for Therapy in Intestinal Obstruction."——Dr. Thomas Addis, San Francisco, addressed the Springfield Medical Club, April 23, on "Treatment of Glomerular Nephritis."——Dr. Joseph L. Baer, Chicago, discussed "Prolonged Labor" before the Knox County Medical Society, April 4.

Chicago

Anniversary Dinner.—The thirty-third anniversary of the Ravenswood Hospital will be observed at a dinner at the North Shore Country Club May 8. Two of the hospital's founders, Drs. George N. Bussey and George De Tarnowsky, will be guests of honor at the dinner. They are still active members of the staff. In the morning the obstetric and gynecologic section of the hospital will hold a special commemorative program. At this meeting Dr. Bussey, Dr. De Tarnowsky, Dr. Wallace F. Grosvenor and Dr. Clark A. Buswell will be guests.

Biological Photographic Association.—The Chicago chapter of the Biological Photographic Association was organized in January to further the study and improve the technic of photography related to biologic sciences, including the medical field. Those who are active and those who are merely interested in this type of photography may become members. Meetings are open to nonmembers also. Mr. William L. M. Martinsen, of the Municipal Tuberculosis Sanitarium, was elected president; Mr. Ralph P. Creer, of the Veterans Administration Facility, vice president; Mr. John A. Maurer, of Loyola University School of Medicine, secretary, and Miss Avis Gregersen, Northwestern University Medical School, treasurer. Mr. Reuel W. Bennett, of Billings Hospital, demonstrated photography of the eye, with special emphasis on color and stereoscopic photography of the retina. Miss Gregersen showed kodachrome slides of diseases of the skin. Mr. Howard Kirby, of the Eastman Kodak Company, spoke, March 19, on the spectral distribution of light, films and filters. Meetings of the association are held at 7:30 p. m. on the third Tuesday of every month at 310 South Michigan Boulevard, room 1111.

INDIANA

Fifty Years of Service.—Dr. Hugh A. Cowing, Muncie, was guest of honor at a luncheon given in recognition of his fifty years in the practice of medicine. Dr. Cowing graduated at the Miami Medical College, now known as the University of Cincinnati College of Medicine, in 1890. He has served as city and county health officer and as a member of the state board of health. He was one of the organizers of the Y. M. C. A. of Muncie, serving as president in 1881. He has since been a director and vice president and for the past three years president again.

Society News.—The Indianapolis Ophthalmological and Otolaryngological Society was addressed, April 14, by Dr. William L. Benedict, Rochester, Minn., on "Diseases of the Paranasal Sinuses and the Ear with Ocular Complications." ——A joint meeting of the Indianapolis Medical Society and the Indiana Tuberculosis Association was addressed, April 16, by Dr. Harry E. Kleinschmidt, New York, on "Some Considerations in the Diagnosis of Tuberculosis." The medical society was addressed at a joint meeting with the Seventh District Medical Society, April 30, by Dr. Paul A. O'Leary, Rochester, Minn., on syphilis.——Dr. Albert M. Snell, Rochester, Minn., discussed "Vitamin K and Its Clinical Application" before the Fort Wayne Medical Society, April 16.

KANSAS

Osteopath Denied Federal Narcotic Registration.—In the opinion of the United States Circuit Court of Appeals, tenth circuit, an osteopath in Kansas has no right under his state license to use narcotic drugs and hence is not entitled to registration under the Harrison Narcotic Act (*Burke, Collector of Internal Revenue* v. *The Kansas State Osteopathic Association et al*). Following a decision by the Supreme Court of Kansas that osteopaths could not lawfully use drugs as remedial aids, the United States Collector of Internal Revenue refused to register osteopaths under the Harrison Narcotic Act. The Kansas State Osteopathic Association then sued to enjoin the collector from thus refusing to register osteopathic licentiates and the United States district court issued the injunction. The Circuit Court of Appeals, however, was of the opinion that the laws of Kansas prohibited the use, sale or distribution of narcotic drugs for any purpose by an osteopath. When osteopaths were licensed to practice their profession, the court pointed out, their therapy, as indicated in statements by leaders of their profession, was designed to relieve pain and other illness by means of manipulation and without the use of drugs. It was on the strength of this claim that the legislature granted them the privilege of practicing the healing art. If, the court continued, osteopaths have now found that their therapy will not relieve pain and that they must use narcotics or other drugs to secure that end, that need should be addressed to the legislature rather than to the courts. The court quoted liberally from osteopathic literature to show that in 1913, when the Kansas law was passed, the "outstanding members of the osteopathic profession understood, believed and taught" that osteopathy was a drugless method of healing. Furthermore, the court thought, the fact that in an osteopathic college the broad principles of medicine and surgery are investigated and considered, for the purpose of giving the student body a knowledge of what those who practice medicine and surgery believe, would not be sufficient to conclude that those licensed to practice osteopathy would have the right to practice medicine and surgery.

MASSACHUSETTS

Doctors' Symphony Orchestra.—The first concert of the Boston Doctors' Symphony Orchestra will be held Sunday evening, May 5, at Jordan Hall, Boston. Alexander Thiede is conductor of the orchestra. Tickets will be $1 and the proceeds will be given to a medical charity.

District Meetings.—The Suffolk District Medical Society was recently addressed in Boston by Drs. Roy F. Feemster on "Acute Infectious Diarrhea" and Maurice B. Strauss, "Maintenance of Adequate Nutrition in Chronic Diarrhea." ——Dr. Edward L. Young discussed "Diseases of the Colon from the Medical and Surgical Standpoints" before the Norfolk District Medical Society recently in Boston.——The Worcester District Medical Society was addressed in Worcester, April 10, by Drs. Gardner N. Cobb on "Unusual Pellagra"; Ernest L. Hunt, "My Boy, the Public Schools, and the Common Cold"; Theodore B. Massell, "Treatment of Varicose and Phlebitic Ulcers"; Joseph Millin, "Pelvic Tuberculosis in the Female," and Charles S. Whelan, "Argentaffine Tumors."

MICHIGAN

New Disease Regulations.—The state department of health has announced several changes in the list of reportable diseases. Acute rheumatic fever and venereal lymphogranuloma have been added to the list. Streptococcic sore throat and trench mouth are made reportable only if they are acute, and a fourteen day quarantine has been added for barracks or dormitories where meningococcic meningitis is found. Under the revised regulations, children with scabies must be kept out of school even though under treatment, and the silver nitrate solution used in the eyes of newborn babies will be reduced in strength to 1 per cent.

Quarantine on Dogs.—A quarantine has been made effective in forty-seven counties of the Lower Peninsula south of the Manistee-Iosco county line as a part of the campaign against rabies recently inaugurated by the state department of health and the department of agriculture. Dogs which are captured when running at large are required to be kept for seventy-two hours and then destroyed except under certain conditions. Dogs may be destroyed sooner by any incorporated humane society or on order of a municipal veterinarian or health officer. If they are not destroyed they must be impounded continuously for three months. Owners wishing to remove their dogs from the quarantine area to another part of the state must first obtain a permit from the local sheriff. Dogs brought into the quarantine area will be registered with the sheriff within forty-eight hours of arrival. Special certificates of health approved by the state veterinarian at Lansing must be obtained for dogs moved from the area to another state. The ban will be in effect at least six months dating from April 1.

NEW HAMPSHIRE

State Medical Meeting.—The one hundred and forty-ninth annual meeting of the New Hampshire Medical Society will be held at the Hotel Carpenter, Manchester, May 14-15, under the presidency of Dr. James B. Woodman, Franklin. The guest speakers will be:

Dr. Elliott P. Joslin, Boston, Diabetic Hazards and How to Meet Them.
Dr. Priscilla White, Boston, Diabetes in Children and Adolescents: Problems and Management; Pregnancy in the Diabetic.
Dr. Alexander Marble, Boston, Diet and Insulin.
Dr. Henry W. Cave, New York, Medical and Surgical Management of Ulcerative Colitis.
Dr. Cornelius P. Rhoads, New York, Vitamins.
Dr. John F. Erdmann, New York, Diverticulitis.

Dr. Nathan B. Van Etten, New York, President-Elect of the American Medical Association, will speak on "The Education of the Intern," with Dr. Nathan Smith, New York, as collaborator, and again at the society banquet on "An American Health Program." Fifty year membership medals will be presented to Drs. Arthur K. Day, Concord; Frank E. Kittredge, Nashua, and George H. Gray, Hyannis, Mass.

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NEW YORK

State Medical Women's Meeting.—The thirty-fourth annual meeting of the Women's Medical Society of New York State will be held May 6 at the Waldorf-Astoria, New York, under the presidency of Dr. Alice Stone Woolley, Poughkeepsie. The speakers will be:

Dr. Josephine H. Kenyon, New York, The Stimulation of Height in Short Children.
Dr. Connie M. Guion, New York, Treatment of Heart Failure.
Dr. Florence E. Sammis, New York, Diagnosis and Treatment of Bronchial Asthma.
Dr. Marian Tyndall, New York, Diagnosis and Treatment of Chronic Arthritis.

New York City

Annual Concert of Doctors' Orchestra.—The Doctors' Orchestral Society of New York will give its second annual concert at Town Hall, May 10, under its regular conductor, Ignatz Waghalter. The program will include works by Tschaikowsky, Wagner, Goldmark and Smetana. Dr. Israel Leopold Glushak will be the soloist, singing arias from "Lohengrin" and "Die Meistersinger." Part of the proceeds will be donated to the New York Physicians' Home. On May 7 the orchestra will play at the annual banquet of the Medical Society of the State of New York at the Waldorf-Astoria. The Doctors' Orchestra has a membership of seventy physicians and dentists, rehearsing every Thursday evening at the National Hospital for Speech Disorders. Dr. Glushak is president of the society, Dr. William S. Thomas, vice president, and Dr. Harold S. Belcher, secretary.

NORTH DAKOTA

State Medical Meeting at Minot.—The fifty-third annual meeting of the North Dakota State Medical Association will be held in Minot May 6-8, under the presidency of Dr. Harry A. Brandes, Bismarck. The meeting will open with a symposium on essential hypertension presented by Drs. Walter E. Camp, Minneapolis; Charles N. Hensel, St. Paul, and Thomas D. Allen, Chicago. Other speakers will be:

Dr. Roscoe C. Webb, Minneapolis, Hernia.
Dr. Paul A. O'Leary, Rochester, Minn., The Eczemas.
Dr. Chester A. Stewart, Minneapolis, Convulsive Disorders in Children.
Dr. Charles W. Schoregge, Bismarck, Simple Mastectomy versus Radical Mastectomy in Carcinoma.
Dr. John L. McKelvey, Minneapolis, Vascular Disease as Related to the Pregnancy Toxemias.
Dr. Monte C. Piper, Rochester, Minn., Chronic Infections of External Genitalia.
Dr. Frederic E. B. Foley, St. Paul, The Choice of Operation for Bladder Neck Obstruction.
Dr. Cedric Northrop, San Haven, The Role of the Private Practitioner in Detecting Pulmonary Tuberculosis.
Dr. Gordon S. Fahrni, Winnipeg, Man., Canada, Thyroid Disease.
Dr. Alfred W. Adson, Rochester, Minn., Early Skull Fractures.

Mr. John M. Pratt, executive director of the National Physicians' Committee, Chicago, will describe the work of the committee.

OHIO

State Medical Meeting at Cincinnati.—The ninety-fourth annual meeting of the Ohio State Medical Association will be held in Cincinnati, May 14-16, at the Netherland-Plaza Hotel under the presidency of Dr. Parke G. Smith, Cincinnati. One general session will be devoted to a conference on medical service plans with an address by Dr. Jason A. Hannah, Toronto, Canada, managing director of Associated Medical Services, Inc., Toronto. Another will be on medical programs for recipients of public assistance with an address by the Hon. Charles L. Sherwood, state director of public welfare, Columbus. Scientific speakers at general sessions will be:

Dr. Richard B. Cattell, Boston, Management of Cancer of the Large Intestine.
Dr. William Osler Abbott, Philadelphia, The Role of Small Intestinal Intubation in the Treatment of Intestinal Obstruction and in the Diagnosis of Obstructing Lesions.
Dr. Clarence Guy Lane, Boston, Criteria for the Diagnosis of Occupational Skin Disease.
Dr. Ralph R. Mellon, Pittsburgh, Clinical and Experimental Aspects of the Mode of Action of Sulfanilamide-Sulfapyridine Compounds.
Dr. Ralph M. Waters, Madison, Wis., Respiration and the Treatment of Pain.
Dr. Elmer J. Wenaas, Youngstown, Affections of the Eye Secondary to General Diseases.
Dr. Raymond A. Ramsey, Columbus, Treatment of Disorders of the Thyroid.
Dr. Marion A. Blankenhorn, Cincinnati, Deficiency Diseases Seen in Office Practice.
Dr. Sidney E. Wolpaw, Cleveland, Diagnosis of Early Pulmonary Tuberculosis.

The section on eye, ear, nose and throat will have as its guest Dr. Thomas C. Galloway, Evanston, Ill., who will discuss "Laryngeal Emergencies (Especially Laryngotracheobronchitis)." There will be round table conferences two afternoons and a public health luncheon Wednesday. At the annual banquet Thursday evening the principal address will be given by Robert A. Taft, Cincinnati, U. S. Senator from Ohio and candidate for the Republican nomination for President.

OKLAHOMA

State Medical Meeting at Tulsa.—The forty-eighth annual session of the Oklahoma State Medical Association will be held at the Mayo Hotel, Tulsa, May 6-8, under the presidency of Dr. Walter A. Howard, Chelsea. There will be two general scientific sessions with the following guest speakers:

Dr. Horton R. Casparis, Nashville, Tenn., Tuberculosis and the General Practitioner; Medical Aspects of Child Behavior.
Dr. Curtice Rosser, Dallas, Texas, Diagnostic Points in Rectal Cancer; Management of Minor Anal Pathology.
Dr. Edward H. Skinner, Kansas City, Mo., Management of the Accessible Cancer of the Uterine Cervix by Radium Therapy; Simplified Radiation Therapy for Cancer of the Skin and Lip; The National Physicians' Committee for Extension of Medical Service.
Dr. Alphonse McMahon, St. Louis, Effect of Aminophylline on the Electrocardiogram; Group Hospital Insurance.

In addition, the guest speakers will address section meetings. Dr. McMahon, who is Vice President of the American Medical Association, will be the speaker at an evening general meeting on "The Medical Profession, Its Aims and Responsibilities." At this meeting Dr. Henry H. Turner, Oklahoma City, will be installed as president and will deliver his address. The Oklahoma Pediatric Society will hold its annual meeting May 6 with Dr. Casparis as a guest speaker on "Recent Advances in Chemotherapy" and "Recent Attitudes Toward Thymic Conditions," and Dr. James G. Hughes, Memphis, Tenn., on "The New Tuberculin Patch Test." There will also be a public health meeting Monday afternoon and the golf tournament will be played at Oakhurst Country Club. The first annual meeting of secretaries of county medical societies will be held Wednesday noon at a luncheon at the University Club.

OREGON

Society News.—A program on medical economics was presented at a meeting of the Multnomah County Medical Society, Portland, April 3, by Drs. John H. Fitzgibbon, George E. Henton and William H. Bueermann and Mr. John J. Coughlin, legal counsel, Oregon State Medical Society.——Dr. Frank R. Mount, Portland, addressed the Central Willamette Medical Society, Eugene, April 4, on "Nonrheumatic Endocarditis."

Lectures on Gastroscopy.—Dr. Rudolf Schindler, associate professor of medicine, School of Medicine of the Division of Biological Sciences, University of Chicago, delivered three lectures in Portland, April 25-27, under the auspices of the Portland Academy of Medicine. His subjects were: "Development and Clinical Importance of Gastroscopy"; "Chronic Gastritis" and "Early Diagnosis and Prognosis of Gastric Carcinoma."

PENNSYLVANIA

Personal.—Dr. Newton W. Hershner, Mechanicsburg, has been appointed medical director of Cumberland County, succeeding Dr. Edward S. Berry, Shippensburg.

Society News.—Dr. Henry H. Ritter, New York, addressed the Lehigh County Medical Society, Allentown, April 9, on "The Commoner Problems in the Treatment of Trauma."——Dr. Harry M. Little, Pittsburgh, addressed the Lawrence County Medical Society, New Castle, April 7, on "The Problems of Child Guidance."

TENNESSEE

State Medical Election.—Dr. Leonard W. Edwards, Nashville, was elected president of the Tennessee State Medical Association at the annual meeting in Chattanooga, April 9-11. Vice presidents elected were Drs. Jesse Paul Baird, Dyersburg; Joe B. Wright, Lynnville, and Abraham J. Guinn, Ducktown, and Dr. Harrison H. Shoulders, Nashville, was reelected secretary. The 1941 meeting will be held in Nashville.

University News.—Dr. Russell L. Cecil, New York, delivered the commencement address at the University of Tennessee College of Medicine, Memphis, March 17, on "The Physician in the Changing World."——Dr. Edward D. Churchill, John Homans professor of surgery, Harvard Medical School, Boston, delivered the tenth annual lecture sponsored by Phi Beta Pi at Vanderbilt University School of Medicine, Nashville, March 18, on "Surgery of the Chest."

TEXAS

State Medical Meeting at Dallas.—The seventy-fourth annual meeting of the Texas State Medical Association will be held at Dallas, May 14-16, at the Hotel Adolphus under the presidency of Dr. Leopold H. Reeves, Fort Worth. At the opening general meeting Dr. Reeves will make his official address on "The Philosophy of Medicine" and Dr. Olin West, Secretary of the American Medical Association, Chicago, will speak on "The American Medical Association and the Public." The guest speakers on the scientific program of the general meetings will be:

Dr. Frank J. Heck, Rochester, Minn., Iron Requirements in Childhood and Adult Life.
Dr. Roy R. Kracke, Emory University, Ga., Effect of Sulfanilamide and Related Compounds on the Blood.
Dr. Alan Brown, Toronto, Ont., A Consideration of Some Common Pediatric Problems.
Dr. Joseph C. Beck, Chicago, Review of Sulfanilamide as an Aid to the Treatment of Eye, Ear, Nose and Throat Conditions.
Dr. Claude S. Beck, Cleveland, Extrinsic Lesions of the Heart.
Dr. Wilson C. Williams, Nashville, Tenn., Public Health and the Practice of Medicine.
Dr. Holland M. Tigert, Nashville, Postmenopausal Bleeding.
Dr. Arthur C. Christie, Washington, D. C., Diagnosis and Management of Cancer of the Breast.
Dr. Frank H. Lahey, Boston, Advances in the Management of Thyroid Diseases.

These guests will also address clinical luncheons and section meetings. Two symposiums are announced on the program. One will be on sulfanilamide therapy with the following speakers: Drs. Bailey R. Collins and William L. Powers, Wichita Falls; Walter G. Reddick, Dallas; William S. Horn, Fort Worth, and Charles M. Simpson, Temple. The other is on hematology, to be discussed by Drs. Roy L. Grogan, Fort Worth; William Boyd Reading and Meyer Bodansky, Galveston; William N. Powell, Temple; William D. Tigertt, Dallas; Alvis E. Greer and Moise D. Levy, Houston. Related organizations that will meet during the week are: Texas Railway and Traumatic Surgical Association, Texas Allergy Association, Texas Neurological Society, Texas Society of Gastro-Enterologists and Proctologists, Texas Association of Medical Anesthetists, Texas Dermatological Society, Texas State Heart Association and the Conference of County and City Health Officers. The Woman's Auxiliary to the state medical association will hold its annual meeting at the Baker Hotel under the presidency of Mrs. Seaborn H. Watson, Waxahachie, with Mrs. Rollo K. Packard, Chicago, president of the national auxiliary, as a guest.

GENERAL

Meeting of Drug Manufacturers.—At the twenty-ninth annual meeting of the American Drug Manufacturers Association at the Greenbrier, White Sulphur Springs, W. Va., May 6-9, the speakers will include Drs. Morris Fishbein, Chicago, Editor of THE JOURNAL, on "American Medicine and the National Government"; Sara E. Branham, U. S. Public Health Service, Washington, D. C., "Antimeningococcic Serum, Its Present Status and Future Possibilities" and Perrin H. Long, Baltimore, "Comparative Clinical Studies on the Value of Sulfanilamide, Sulfapyridine and Sulfathiazole."

Pharmacopeial Convention Meets in Washington.—The thirteenth decennial meeting of the United States Pharmacopeial Convention will be held at the Willard Hotel, Washington, D. C., May 14-15. It may continue through Thursday, May 16, if necessary, according to the program announcement. After the opening ceremony, foreign delegates will be introduced and the president, Dr. Walter A. Bastedo, New York, will give his official address. This will be followed by a "Review of Pharmacopeial Affiliations," with the following speakers:

Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, The Relation of the Pharmacopeia to the Medical Profession.
Evander F. Kelly, Phar.D., Washington, secretary of the American Pharmaceutical Association, The Relation of the Pharmacopeia to the Pharmaceutical Profession.
Mr. Walter G. Campbell, chief, Food and Drug Administration, Washington, The Relation of the Pharmacopeia to the Food and Drug Administration.

At this session reports will be presented by the chairman and secretary of the board of trustees, the treasurer of the convention and the chairman of the committee of revision; proposed amendments to the constitution and by-laws will be considered and the nominating committee will be named by accredited member organizations. On the second day, the secretary of the pharmacopeial convention will make his report and resolutions or contributions in writing by members of the convention will be received. The nominating committee will then report, officers will be elected and installed for 1940-1950 for the convention, the board of trustees and the general committee of revision. Then will come a consideration of general principles to guide the U. S. P. revision, followed by introduction of general and new business.

On Monday, May 13, there will be a series of conferences on revision with respect to the following subjects: botany and pharmacognosy; extracts, fluidextracts, tinctures, waters, solutions, spirits, syrups and elixirs; inorganic and organic chemicals; statistical methods as applied to biological assays; volatile oils; biologic assays; cerates and ointments; hormones; proximate assays; vitamins; U. S. P. scope, therapeutics, nomenclature, and so on; preservation and packaging of pharmacopeial products.

FOREIGN

Dr. Whitby Honored.—The Royal College of Surgeons of England has awarded the John Hunter Medal and Triennial Prize to Dr. Lionel Ernest Howard Whitby, bacteriologist for Middlesex Hospital, London, for his research in bacteriology "with special reference to the sulfonamide compounds." Dr. Whitby, who is 45 years old and a graduate of Cambridge University, is the author of textbooks on "The Laboratory in Surgical Practice" (with E. C. Dodds); "Medical Bacteriology" and "Disorders of the Blood," as well as a "Nurses' Handbook of Hygiene," and numerous contributions to the periodical literature.

Malaria in Yunnan, China.—Malignant malaria is epidemic in the province of Yunnan, China, according to a dispatch to the New York *Times* recently. Dr. Henry S. Houghton, Peiping Union Medical College, Peiping, Dr. Marshall C. Balfour, of the Rockefeller Foundation headquarters in Shanghai and John Leighton Stuart, D.D., president of Yenching University, went to Yunnan to join U. S. Public Health Service officers who went to China in November 1939 under the auspices of the Rockefeller Foundation to investigate reported epidemics. According to the *Times* dispatch, Bruce Mayne, Dr.P.H., one of the latter group, found a hitherto unknown type of mosquito that was infesting the Burma road, but he became ill in the midst of his investigations and had to return home. Other members of the earlier mission were Drs. Louis L. Williams Jr. and Hiram J. Bush (THE JOURNAL, Nov. 11, 1939).

CORRECTION

Dr. Emerson Not a Member of Health Council.—Dr. Haven Emerson, New York, writes that he is no longer a member of the National Advisory Health Council of the U. S. Public Health Service, a position he held some years ago. That Dr. Emerson is a member was noted in a news item in THE JOURNAL, April 20, page 1565.

Government Services

Announcement of Wellcome Medal

The Association of Military Surgeons of the United States announces the annual competition for the Wellcome Medal and prize of $500, established by the late Sir Henry Wellcome for research on subjects helpful to the objects of the association. The topic chosen for this year is "Medical and Sanitary Care of the Civilian Population Necessitated by Attacks from Hostile Aircraft." Five copies of the essay must be in the office of the association in Washington, D. C., by August 20. The medal will be awarded at the annual meeting in Cleveland, October 10-12.

Dr. Sayers in Charge of Bureau of Mines

Dr. Royd R. Sayers, senior surgeon, U. S. Public Health Service, Washington, D. C., has been detailed by the President to be acting director of the Bureau of Mines, U. S. Department of Interior, according to the New York *Times*. Dr. Sayers graduated at the University of Buffalo School of Medicine, Buffalo, in 1914, and has been a member of the public health service since that time. He was chief surgeon and chief of the health and safety branch in the bureau of mines from 1917 to 1932, when he was placed in charge of the office of industrial hygiene and sanitation of the public health service.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 30, 1940.

The Food Situation

In spite of war activities on a gigantic scale, the food situation remains excellent. Only four foods have been rationed and the alternatives are so many that there is no hardship. Moreover, the allowance of butter has been doubled, increasing it to half a pound weekly per person, which is about normal consumption. Food prices have increased by only 16 per cent, which is but a small rise for a great war. In the previous one they had risen 84 per cent by the fourth year. Mr. Alan Tindal Lennox-Boyd, parliamentary secretary to the Ministry of Food, states that our rationing scheme has developed into a flexible machinery which would enable the country to face a long and grim war with complete confidence. Rationing was introduced early in this war so that the longest purses might not get the greatest advantage and in order to keep prices down. Moreover, to this end the government is subsidizing the production of essentials, such as flour, meat and milk, to the extent of $4,500,000 a week. This is not done because of any scarcity but to cover the increased costs of production, transportation and distribution. The stocks of foodstuffs in this country are far greater than when the war broke out. Yet in the ceaseless output of fables for propaganda we are told that "food conditions in England are far worse than in Germany." This at a time when the attempt at blockade has quite failed and the Allied command of the sea has reduced the enemy to indiscriminate mine laying, more injurious to neutrals than to us! Normally we import a large part of our food supply and that, thanks to the success of the convoy system, comes through unhindered. Any restriction is due to the large amount of tonnage that has to carry munitions of war. But even serious restriction would not cause want, as we could produce at home much more food and indeed this is now being done, not because of difficulty of importing it but to spare ship tonnage. As one of the great exporters of manufactures, we normally import much food in return for them, and so we obtain food at a lower cost than it could be produced at home.

Treatment of Cerebrospinal Fever

A memorandum issued by the Ministry of Health points out that the introduction of sulfonamide derivatives has revolutionized the treatment of cerebrospinal fever. Meningococci appear to be equally susceptible to sulfanilamide and sulfapyridine, but sulfapyridine has the important advantage that it is not only as effective in the treatment of meningococcic and streptococcic infections as is sulfanilamide but is unique in its action on pneumococcic infections. This is a great advantage, as at the bedside the physician can rarely make a more precise diagnosis than that the patient is suffering from purulent meningitis. The two essentials of treatment are early administration and adequate dosage. As soon as a clinical diagnosis is made, chemotherapy should be begun without awaiting bacteriologic confirmation. It should be remembered that deepening coma may quickly render administration of fluids difficult, and these should be given plentifully. The aim should be to maintain in the cerebrospinal fluid a concentration of the drug equal to 5 mg. per hundred cubic centimeters for three days and a diminishing concentration for a further five or six days. Sulfapyridine should be given every four hours night and day during the first few days. The first two doses may be a maximum of 2 Gm. each for adults. Thereafter the four hourly doses should not exceed 1.5 Gm. each, or a total of 9 Gm. in the twenty-four hours. This dosage should extend over two and one-half to three days and the dose should then be gradually reduced over the next four to six days. This scheme will generally ensure that the drug is administered for some days after disappearance of the clinical signs and so prevent recurrence. The drug treatment should be completed in from seven to nine days in order to avoid the more dangerous toxic effects. But the administration should not be interrupted on account of minor toxic effects, such as cyanosis, nausea, vomiting or mental confusion. The oral route is to be preferred. If the dose is vomited, it should be repeated suspended in mucilage of tragacanth. If vomiting is repeated, it is a good plan to change from sulfapyridine to sulfanilamide. Alternatively, soluble sulfapyridine may be given as a deep intramuscular injection. The dose for infants and young children is proportionately higher than for adults. Infants easily tolerate 3 Gm. of sulfapyridine daily for the first three days. For adults about 4 pints (2 liters) of fluid daily is desirable to avoid the danger of hematuria from deposit of crystals of the acetyl derivative of the drug.

Toxic effects of the drugs are usually of a minor nature. With sulfanilamide on the scale of dosage mentioned, cyanosis constantly appears within twenty-four hours and remains until the dosage is reduced. It is due in most cases to methemoglobin and occasionally to sulfhemoglobin. Except in such conditions as severe anemia or dyspnea from concurrent respiratory disease, cyanosis, unless extreme, is not necessarily an indication for reducing the dosage. Other toxic effects of sulfanilamide are drowsiness, disorientation, mental confusion, occasionally hallucinations, and rarely papular rashes. With sulfapyridine cyanosis is much less marked but nausea, vomiting, malaise and general depression may be troublesome. Transient hematuria has been noted. In these conditions the drug should be changed to sulfanilamide in similar dosage. If hematuria persists, the drug may be reduced or stopped for from twelve to twenty-four hours. At the same time administration of fluids should be increased and the urine kept alkaline by administration of citrate. The danger of granulocytopenia seems more remote than in some other infectious diseases, such as puerperal fever and pneumonia. It is, however, wise to do a leukocyte count after the third day and repeat it in a few days. In hospitals, analyses to determine the drug content of the body fluids should be made so as to exercise an accurate control of dosage in relation to the condition of the patient. After an initial lumbar puncture for diagnosis, further punctures should not be done except to relieve pressure symptoms (intense headache) and on alternate days to verify the efficacy of chemotherapy.

Sir Patrick Laidlaw

The death at the age of 58 of Sir Patrick Laidlaw, F.R.S., head of the Department of Experimental Pathology and deputy director of the National Institute of Experimental Research, has removed a great investigator. He was working in his laboratory within a few hours of his sudden death from coronary thrombosis. He never had robust health and suffered from an attack of poliomyelitis in youth. The son of a physician, he adopted his father's profession and was educated at Cambridge and Guy's Hospital, where he became demonstrator of physiology. He joined the staff of the Wellcome Physiological Laboratories and published many pharmacologic papers, principally on the amines. In 1914 he returned to Guy's Hospital as lecturer in pathology, where he devised methods for the anaerobic cultivation of bacteria. In 1922 he joined the staff of the National Institute for Medical Research, where he did his pioneer work on virus infections, which Dale describes as his most important contribution to the advancement of knowledge. His work, with Dunkin, on dog distemper is a classic for which the Royal Society awarded him a royal medal. Later, with Andrews and Wilson Smith, he discovered

that a transmissible virus is the primary infective agent in human influenza. From this have grown investigations still in progress all over the world. He did much other work, all of the first importance. The first detailed studies on histamine in collaboration with Dale are described by the latter as "his work as much as mine." With Dobell he cultivated the parasitic amebas and investigated the effect of drugs on them. With H. W. Dudley he worked on the specific carbohydrate haptene of tubercle bacilli. Like many great men, he was most modest.

PARIS

(From Our Regular Correspondent)

March 27, 1940.

Cardiac Infarcts

At the latest meeting of the Société de cardiologie, several papers were read on the relations between infarcts of the myocardium and coronaritis, a question on which great divergence of views prevailed. Donzelot and Meyer Heine discussed apoplexy and the electrocardiographic indications of myocardial infarcts without coronary obliteration. At last December's meeting Laubry and Lenègre discussed fifty-seven cases of myocarditis, carefully followed during life and examined after death, in which arteriosclerosis simultaneously affected the aorta and the coronaries. Coronary lesions were nearly always bilateral and diffuse and did not always end in the obliteration of the vessel; cardiac lesions affected the three tunics, the myocardium alone being affected in thirty-two cases. Often several, either old or recurrent, infarcts were observed. They were localized, diffuse or atypical. Side by side with the classic hemorrhagic, necrotic or fibrous aspects, apoplexies were found in which the blood or serum was involved. There exists, therefore, among clinically similar cases a large variety of lesions which cannot always be precisely classified. The most striking feature is the preference for the left ventricle and the myocardiac zones situated at the extremity of coronary arborizations. Angina was observed in about half of the cases. Cardiac insufficiency was frequent. In thirty-two cases of infarct, coronary thrombosis was found seven times, limited stenosis eleven times, purely sclerous lesions five times and no coronary lesions twice. Infarcts are therefore not necessarily conditioned by ischemias. The most serious and extensive forms of coronary insufficiency are not of necessity accompanied by infarcts. Other factors productive of ischemia need to be conceded, such as reflex vasomotor disorders of a coronary, aortic or pulmonary nature.

Tuberculous Reinfections

In a recent paper G. Canetti set forth the results of his studies of tuberculous infections, pursued at the Hôpital Cochin and in the tuberculosis research laboratory of the Pasteur Institute. These results are based on numerous observations, especially on 100 carefully analyzed necropsies. Canetti thinks that lesions constantly found in the necropsies of the aged are not altogether caused by "primary pneumoganglionary complexes" but by other abortive or latent onsets that occur throughout life. To call these onsets reinfections implies that they are infections springing from areas that have become sterile. This is not always the case. It would be better to call them neo-infections. "Slate colored" pneumonias result from functional disorders involving insufficiency of the lymphatic circulation due to a weak respiratory expansion. Neo-infections occur especially in childhood and are generally apical. The general opinion that they are endogenous in their nature is quite conceivable if they spring from primary complexes that have not become sterile. Such are found in only 20 per cent of the cases. The remaining infections are exogenous, conditioned by intensity of the infection and the individual's power of resistance. There is no constancy in this resistance nor any continuity in the protection it offers.

Neuro-Ophthalmology

E. Velter, professor-elect of ophthalmology at the Faculty of Medicine of Paris, discussed in his opening lecture the relatively new branch of neuro-ophthalmology. Its field is the analytic study of the clinical relations between neural and ocular disorders. It implies knowledge of the embryologic, anatomic and physiologic relations of the functions of the eye and those of the central nervous system. Ophthalmology has also assumed an important place in social medicine such as supervision of the eyesight of school children and of workers of all kinds, of industrial accidents, of trachoma and of the prevention of blindness. Ophthalmology is emerging from its former confines reserved to the specialist and is entering the field of general pathology. Instruction must therefore be based on new and enlarged foundations and become accessible to all. Velter also pointed out that the present war brought new problems chiefly of a surgical nature pertaining to the excision or prompt cleansing of the wound, to the preservation of what can be saved and to suture repair. The science of treating ocular wounds grew out of the experiences of the World War. After the war, the damage done to the eyesight of the individual will have to be determined and the occupational rehabilitation undertaken. The ophthalmologist will have a wide field of action.

COPENHAGEN

(From Our Regular Correspondent)

March 17, 1940.

The Medical Supervision of Hospital Nurses

A remarkable change is to be noted in the conditions of hospital service for nurses. And it is perhaps only natural that older generations of nurses should feel a trifle resentful over the care and tenderness now shown to their younger sisters. One of the most important reforms in the nursing world concerns the very discriminating selection, from a medical point of view, of all candidates for nursing work. Before they are accepted, their family histories are scrutinized and they themselves are subjected to a searching clinical examination. The blood is examined by the sedimentation test, an electrocardiographic record is taken in doubtful cases, and in every case an x-ray examination of the chest is undertaken. By this combing out process about 5 per cent of the applicants for training as nurses are rejected, although many of them produce certificates from private medical practitioners who have vouched for the perfection of their health. Those candidates who survive the first series of tests have to undergo a new medical examination every half year, and on every such occasion the opportunity is taken to correct minor disabilities and ailments such as constipation, dysmenorrhea, varicose veins and deformities of the feet.

Dr. Hans Heckscher, who since May 1933 has kept more than a thousand hospital nurses under close medical supervision, testing them with tuberculin from time to time, has come to the conclusion that the nurse who is tuberculin negative at the beginning of her career is not so peculiarly liable to develop tuberculosis as the Norwegians Dr. Scheel and Dr. Heimbeck would have us believe. In fact, he has found that a nurse who was originally tuberculin positive is just as likely to develop tuberculosis as her originally tuberculin negative sister. Incidentally he expresses a quite favorable opinion of the Pirquet test, which most Danish doctors, influenced by the State Serum Institute in Copenhagen, are inclined to despise, having been taught that the Mantoux reaction is so much more delicate and accurate. So it is. But, as Dr. Heckscher remarks, the allergy which is revealed by the Mantoux test and missed by the Pirquet test is not a matter of any great importance.

Treatment of a Mentally Defective Child by a Chiropractor

A recent controversy which began between a chiropractor and a medical practitioner, and which ended in a law suit, has given the Danish public an insight into the scope of the therapeutic claims of chiropractors. In this particular case, chiropractor Andreasen undertook to treat a child suffering from chorea. The child had been admitted to the Ribe Institute for Mental Defectives and had been taken out of it on the parents' request. It was at this stage that Andreasen undertook to give chiropractic treatment for the child's affliction. The family doctor, Dr. Ovesen, dissented from this treatment, finding expression for his dissent in words to which the chiropractor took exception. These words, alleged to be defamatory, were addressed in part to the parents of the child, in part to the chiropractor himself. The sentence which the chiropractor claimed to be slanderous was that "chiropractic treatment of mental deficiency is a swindle and humbug." The upshot of the prosecution for slander in this case was the acquittal of the defendant, the complainant having to pay costs to the tune of 200 kroner. The court found that Dr. Ovesen must be considered justified in defining the chiropractor's treatment of the child in the aforementioned terms, considering that the chiropractor knew that the child had come under treatment after having been taken by the parents out of an institute for the mentally defective. The court also found that Dr. Ovesen was justified as the family doctor in advising against a treatment which, in the opinion of the medical authorities, must be considered as quite futile. A circumstance militating against the claimant was the further fact that the child had been deprived of proper care and education in order to undergo the chiropractor's treatment.

The Late Prof. Viggo Christiansen

Professor Christiansen, who was born on Dec. 9, 1867, and who died on Nov. 3, 1939, was the first occupant of the chair of neurology at the university of Copenhagen. He was a combative pioneer at a stage in the history of medicine when neurology and psychiatry were confused with each other and physicians looked askance at neurology as an independent discipline. Though Christiansen was a titular professor from 1911 onward, it was not until 1935 that he became an ordinary professor in the full academic sense and in a well defined sphere.

BUENOS AIRES

(From Our Regular Correspondent)

March 22, 1940.

Control of Diphtheria

Compulsory vaccination is regarded as the only solution of the diphtheria problem in Argentina, as pointed out by Dr. R. Cibils Aguirre in the *Revista de medicina y ciencias*. In the noncompulsory campaigns against diphtheria by the national educational council only 133,000 children were inoculated during the last eight years out of 300,000. Several bills, however, aiming at the improvement of the situation are awaiting legislative action. To complete within the shortest time possible reliable diagnostic tests of diphtheria bacilli, a center has been created in the bacteriologic institute connected with the federal department of public health. A fee of 15 Argentine pesos ($4.50) is charged, except in the case of official analyses and those of the indigent. Serums may also be procured there.

In Bolivia no prophylaxis has been established and epidemics of diphtheria occur. In a bulletin of the national health department, Dr. Ossio advises that anatoxin therapy according to Ramon's method be employed, suggesting the use of foreign preparations until the Bolivian institute of bacteriology begins to function.

In Uruguay the fight against diphtheria has been intensified and 50,000 Uruguayan pesos ($20,000) set aside by parliamentary law. It is conducted by the Centro Antidiftérico under the control of the national department of public health. According to a law that is to be valid for one year, inoculation may be enforced where necessary. Diphtheria has increased in Uruguay since 1928. Uruguay's mortality rate from diphtheria is among the highest. Ramon's anatoxin, according to a report of Drs. Léunda and Raggio in the *Archivos de pediatría del Uruguay*, has achieved striking results. Three doses were sufficient to achieve immunization in from 80 to 95 per cent. Good results have also been obtained with the alum toxoid of Glenny and the preparation of Sordelli that is activated by aluminum hydroxide. The peak of immunization is reached in the third to the sixth month and diminishes after a year. They recommend the inoculation of all children 1 year old and in special cases those aged 9 months. Since children 10 years old and older may manifest reactions, it is recommended that small doses of from 0.1 to 0.2 cc. be used at first. In remote regions where only a single vaccination can take place, satisfactory results have been obtained with aluminum toxoid.

New Tuberculosis Hospital

The Hospital Nacional Central, formerly a military hospital, was dedicated Feb. 18. It contains 600 beds and will remain under the control of the federal department of public health until the national tuberculous commission, created by law, begins to function. Dr. Antonio Cetrángolo was appointed as its head and an extensive staff of associates provided for. Prof. A. Ceballos was selected as director of the surgical division. The budget for the first ten months of operation will amount to about 900,000 Argentine pesos ($270,000). Several new pavilions have been added to the old building. One of these is intended for surgery and contains 120 beds. The hospital, which will also coordinate the dispensaries scattered over the country, is intended for male patients only, since women use hospital services far less than men.

Prevention of Venereal Disease

The Argentine League of Social Prophylaxis reports that in 1939 in Buenos Aires more than 3,000 persons were taken care of without charge and 742 were given premarital examinations. About 100 popular lectures, supported by scientific films of French origin, were given. Thousands of pamphlets were distributed, numerous posters exhibited and the construction of an institute of sex hygiene recommended. This kind of propaganda supplemented the activities of the federal department of public health.

Marriages

Richard Williamson Fowlkes, Richmond, Va., to Mrs. Ferebee Fenner Cooper of Henderson, N. C., March 1.

Robert C. Hardin, Thompson, Iowa, to Miss Velma Holets of Swisher, in Cedar Rapids, Dec. 27, 1939.

Fred F. Agnew, Independence, Iowa, to Nellie B. Sayers of Milwaukee, in Dubuque, Iowa, Dec. 23, 1939.

Henry Beall Gwynn, Washington, D. C., to Miss Patricia Hurley at Belmont, Va., April 12.

Samuel Rossiter Wallis, Lihue, Kauai, Hawaii, to Miss Mary Dorothea Rice, April 2.

James Frederick O'Daniel to Miss Bennetta Lomax, both of Atlanta, Ga., March 3.

Maynard P. Smith to Miss Mary Helen Young, both of Baltimore, January 19.

Zigmore Harris to Miss Sylvia Estelle Hirsh, both of Chicago, April 14.

Earle X. Thompson to Miss Marion Classen, both of Milwaukee, March 23.

Samuel J. Hiller to Miss Annette Richman, both of Milwaukee, March 17.

Deaths

John Lovett Morse ● Newton, Mass.; Harvard Medical School, Boston, 1891; assistant in clinical medicine from 1896 to 1900, instructor of pediatrics from 1903 to 1906, assistant professor from 1906 to 1911, associate professor from 1911 to 1915, professor from 1915 to 1921 and since 1921 professor emeritus at his alma mater; professor of pediatrics emeritus at the graduate school; member and past president of the American Pediatric Society and the New England Pediatric Society; a founder and past president of the American Academy of Pediatrics; member of the Association of American Physicians; consulting physician to the Infants' Hospital, Children's Hospital, Boston Floating Hospital and the Beth Israel Hospital; author of "Case Histories in Pediatrics" and "Clinical Pediatrics"; co-author with Dr. F. B. Talbot of "Diseases of Nutrition and Infant Feeding" and "The Infant and Young Child" with Drs. E. T. Wyman and L. W. Hill; aged 74; died, April 2, of coronary thrombosis.

Alexius McGlannan ● Baltimore; College of Physicians and Surgeons, Baltimore, 1895; professor of surgery at the University of Maryland School of Medicine and College of Physicians and Surgeons from 1913 to 1937 and since 1937 professor emeritus; member of the House of Delegates of the American Medical Association in 1915, 1917, 1930, 1931 and 1932; past president of the Medical and Chirurgical Faculty of Maryland; member of the American Surgical Association, Southern Surgical Association and the American Gastro-Enterological Association; fellow of the American College of Surgeons; consulting surgeon to the Mercy Hospital; author of the "Manual of Organic and Physiological Chemistry" and the "Manual of Physics and Inorganic Chemistry" published in 1903, and others; aged 67; died, February 25, of cerebral hemorrhage, arteriosclerosis, hypertension and auricular fibrillation.

Thomas Allen Groover ● Washington, D. C.; Columbian University Medical Department, Washington, 1898; member and past president of the American Roentgen Ray Society and the Medical Society of the District of Columbia; member of the Radiological Society of North America and the American College of Radiology; at one time vice president of the Southern Medical Association; formerly professor of roentgenology at the George Washington University School of Medicine; at one time medical inspector of schools; radiologist on the staff of the Doctors' Hospital; established the x-ray department at the Emergency Hospital in 1900 and served as radiologist to that institution until 1929; aged 62; died, April 20, of carcinoma.

Overton Brooks ● Chicago; Northwestern University Medical School, Chicago, 1906; fellow of the American College of Surgeons; naval examining officer in Chicago during the World War; past president of the North Side Branch of the Chicago Medical Society; was surgeon to the Chicago Great Western, Monon and Erie railroads; aged 59; on the staffs of St. Joseph's Hospital and the Henrotin Hospital, where he died, March 28, of lymphosarcoma and pneumonia.

Andrew Arthman Bruere, Montreal, Que., Canada; University of Edinburgh Faculty of Medicine, Edinburgh, Scotland, 1887; at one time assistant professor of bacteriology at the McGill University Faculty of Medicine; member of the American Association of Pathologists and Bacteriologists and the Society of American Bacteriologists; formerly director of the clinical bacteriologic laboratory of the Royal Victoria Hospital; aged 75; died, February 21.

John Henry Connaughton Gallagher ● Chicopee, Mass.; Baltimore Medical College, 1903; member of the American Academy of Ophthalmology and Otolaryngology and the New England Otological and Laryngological Association; served during the World War; at one time school physician and member of the school board for many years; formerly on the staff of the Mercy Hospital, Springfield; aged 58; died, March 18, in St. Petersburg, Fla.

William Eugene Vose ● Colonel, U. S. Army, retired, Charlottesville, Va.; University of Virginia Department of Medicine, Charlottesville, 1899; entered the army as an assistant surgeon in 1901; served during the World War; retired as a lieutenant colonel, Oct. 31, 1919, for disability in line of duty; by a special act of June 21, 1930, was retired as a colonel; aged 62; died, February 29, of coronary thrombosis.

Hugh Nelson Page ● Augusta, Ga.; University of Virginia Department of Medicine, Charlottesville, 1905; professor of anatomy at the University of Mississippi from 1909 to 1911 and professor of anatomy from 1911 to 1921; associate professor of orthopedic surgery at the University of Georgia School of Medicine; on the staff of the University Hospital; aged 57; died, March 6, of cerebral thrombosis.

Jeremiah W. Sheehan, Winooski, Vt.; University of Vermont College of Medicine, Burlington, 1892; member of the Vermont State Medical Society; formerly health officer; for many years trustee of the public schools; on the staffs of the Bishop De Goesbriand Hospital, Burlington, and the Fanny Allen Hospital; aged 76; died, February 17, of angina pectoris and arteriosclerosis.

William Mack Majors, Paragould, Ark.; Memphis (Tenn.) Hospital Medical College, 1912; member of the Arkansas Medical Society; from 1935 to 1939 member of the State Medical Board of the Arkansas Medical Society; past president and secretary of the Greene County Medical Society; served during the World War; formerly county health officer; aged 58; died, February 14.

Clarence Leonard Whitmire ● American Lake, Wash.; University of Illinois College of Medicine, Chicago, 1919; member of the Illinois State Medical Society and the American Psychiatric Association; senior physician on the staff of the Veterans Administration Facility; aged 44; died, March 2, in Tacoma of ruptured dissecting aneurysm of the aorta.

Michael Ignatius Shea, Chicopee Falls, Mass.; Georgetown University School of Medicine, Washington, D. C., 1904; formerly mayor and member of the board of health; for many years city physician; on the staff of the Mercy Hospital, Springfield; member of the board of trustees of the Monson State Hospital, Palmer; aged 64; died, February 11.

Dudley De Vere Roberts, New York; Columbia University College of Physicians and Surgeons, New York, 1898; on the staff of the Fifth Avenue Hospital from 1923 to 1926; member of the American Gastro-Enterological Association; served during the World War; aged 66; died, March 8, in the Doctors' Hospital of cerebral hemorrhage.

Charles Ellis Shultz, Bloomington, Ill.; Rush Medical College, Chicago, 1900; member of the Illinois State Medical Society; served during the World War; formerly city health officer; at one time superintendent of the Fairview Sanatorium, Normal; aged 73; died, March 2, in St. Joseph's Hospital, of hypertension and nephritis.

Mary Rees Mulliner, Wellesley, Mass.; Boston University School of Medicine, 1896; at one time in charge of corrective gymnastics, department of hygiene, Wellesley College; author of "Elementary Anatomy and Physiology," published in 1924, and "Mechano-Therapy," published in 1929; aged 80; died, February 19, of cardiorenal disease.

Lawrence Edward Keegan, St. John's, Newfoundland; L.K.Q.C.P., Ireland and L.R.C.S., Ireland, 1888, and University of Dublin School of Physic, Trinity College, Dublin, Ireland, 1896; superintendent of St. John's Hospital from 1909 to 1935; first president of the Newfoundland Medical Association; aged 73; died, February 19.

Harry Edward Purcell ● Madison, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1900; member of the city board of health; formerly city health officer; aged 66; died, March 10, in the Firmin Desloge Hospital, St. Louis, of coronary occlusion.

Emmett Lee Jones ● Cumberland, Md.; Medical College of Alabama, Mobile, 1886; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; consultant on the staff of the Memorial Hospital; aged 74; died, March 31, of mitral regurgitation.

James B. Ellingwood, Fortville, Ind.; Physio-Medical College of Indiana, Indianapolis, 1907; member of the Indiana State Medical Association; county health officer; formerly county coroner; aged 58; died, March 8, in St. Vincent's Hospital, Indianapolis, of cerebral hemorrhage.

James Benajah Phillips, Chattanooga, Tenn.; University of Louisville (Ky.) Medical Department, 1910; member of the Tennessee State Medical Association; on the staff of the Children's Hospital; aged 58; died, March 7, of injuries received in an automobile accident.

Fred Nunn Bybee, Glasgow, Ky.; University of Tennessee College of Medicine, Memphis, 1937; member of the Kentucky State Medical Association; aged 38; on the staff of the T. J. Samson Community Hospital, where he died, March 27, of carcinoma of the rectum.

Erwin William Johns ● Albuquerque, N. M.; University of Minnesota Medical School, Minneapolis, 1923; member of the Radiological Society of North America and the American College of Radiology; aged 52; died, March 24, of a ruptured gangrenous appendix.

James Robinson Fuller, Atlanta, Ga.; Atlanta Medical College, 1915; member of the Medical Association of Georgia; served during the World War; aged 56; died, March 31, of injuries received when he fell four floors down the stairwell of his office building.

William Benjamin Jones, Plain City, Ohio; Western Reserve University School of Medicine, Cleveland, 1938; formerly resident on the staff of the City Hospital, Cleveland; aged 26; died, March 22, of an accidental gunshot wound in the head.

Roland Ringwalt Diller, Detour, Md.; University of Maryland School of Medicine, Baltimore, 1910; member of the Medical and Chirurgical Faculty of Maryland; aged 57; died, March 10, in the Frederick City (Md.) Hospital of myocarditis.

Harry Benjamin Thomas ● Bloomington, Ind.; Indiana University School of Medicine, Indianapolis, 1928; instructor of anatomy at his alma mater; aged 54; died, March 10, in the Robert W. Long Hospital following an operation for brain tumor.

John William Begg, Guilford, Conn.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1887; served during the World War; aged 78; died, March 2, in the Presbyterian Hospital, New York, of carcinoma of the prostate.

Charles L. Finch, Lansing, Mich.; Michigan College of Medicine and Surgery, Detroit, 1891; at one time superintendent of the Morgan Heights Sanatorium, Marquette; aged 71; died, March 12, of coronary thrombosis.

Henry Welsh Aldridge, Manitowoc, Wis.; University of Texas School of Medicine, Galveston, 1898; member of the State Medical Society of Wisconsin; aged 67; was killed, March 22, in an automobile accident.

Harris Howard Hamlin ● Seattle; University of Kansas School of Medicine, Kansas City, Kan., 1929; member of the North Pacific Society of Internal Medicine; aged 43; died, March 19, of heart disease.

Moses Andrew Beasley, Madison, Tenn.; Vanderbilt University School of Medicine, Nashville, 1904; member of the Tennesssee State Medical Association; aged 65; died, March 9, in an automobile accident.

Frank Evans Chase, St. Louis; Chaddock School of Medicine, Quincy, Ill., 1890; served during the World War; aged 73; died, March 7, in the Veterans Administration Facility, Hines, Ill., of carcinoma.

George Darling Shortreed, Grand View, Man., Canada; Manitoba Medical College, Winnipeg, 1901; past president of the Manitoba Medical Association; aged 69; died, March 13, of coronary thrombosis.

Anton Christian Sorensen, York, Pa.; College of Physicians and Surgeons, Baltimore, 1911; served during the World War; aged 71; died, February 26, in the York Hospital of cirrhosis of the liver.

Charles Maxwell Harmon ● Cassopolis, Mich.; Johns Hopkins University School of Medicine, Baltimore, 1916; served during the World War; aged 50; died, March 26, of cerebral hemorrhage.

Peter Charles Manley, Scranton, Pa.; College of Physicians and Surgeons, Baltimore, 1881; member of the Medical Society of the State of Pennsylvania; aged 82; died, February 24, of arteriosclerosis.

Frank A. McKenna, Pawtucket, R. I.; College of Physicians and Surgeons, Baltimore, 1894; member of the Rhode Island Medical Society; aged 73; died, March 3, of chronic arthritis and myocarditis.

George Cyril Graves, Cincinnati; Indiana University School of Medicine, Indianapolis, 1913; aged 58; on the staff of the Longview State Hospital, where he died, March 30, of carcinoma.

William L. Bennett, Moultrie, Ga.; Southern Medical College, Atlanta, 1896; member of the Medical Association of Georgia; aged 67; died, March 20, in the Vereen Memorial Hospital.

William Herbert Dunham, Shaftsburg, Mich.; Detroit College of Medicine, 1906; aged 61; died, March 7, in the Sparrow Hospital, Lansing, of chronic nephritis following herniotomy.

Charles Turner Jones, Salt Lick, Ky.; University of Louisville Medical Department, 1910; member of the Kentucky State Medical Association; aged 53; hanged himself, February 23.

Martin William Fitzpatrick ● Decatur, Ill.; Rush Medical College, Chicago, 1903; aged 65; formerly on the staff of St. Mary's Hospital, where he died, March 22, of heart disease.

Edwin Forrest Price, Long Beach, Calif.; State University of Iowa College of Medicine, Iowa City, 1889; aged 72; died, February 23, of arteriosclerosis and cerebral hemorrhage.

Morris Popper, St. Louis; Barnes Medical College, St. Louis, 1900; at one time associate professor of pathology at his alma mater; aged 71; died, March 10, of heart disease.

Janet Murray, Schenectady, N. Y.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1891; aged 80; died, February 20, of myocarditis and arteriosclerosis.

Robert E. Goodlet, Dyersburg, Tenn.; Vanderbilt University School of Medicine, Nashville, 1875; aged 89; died, March 10, in the Baird-Brewer Hospital of a fractured hip.

William Charles Roser, Boonville, N. Y.; Long Island College Hospital, Brooklyn, 1893; aged 74; died, February 15, in St. Luke's Hospital, Utica, of arteriosclerosis.

Gioacchino A. Carella, Teano, Napoli, Italy; Regia Università di Napoli Facoltà di Medicina e Chirurgia, Italy, 1899; aged 71; died, March 8, of mitral insufficiency.

Timothy A. Duggar, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1892; aged 76; died, March 6, of carcinoma of the pancreas.

Clay Holloway Weimer ● Shamokin, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1898; aged 64; died, February 27, of coronary occlusion.

Darrell Gordon Duncan, Oklahoma City; University of Oklahoma School of Medicine, Oklahoma City, 1928; aged 36; died, March 1, of pulmonary tuberculosis.

Walter James Cavanagh, Boston; Bellevue Hospital Medical College, New York, 1894; aged 72; died, February 8, in the Carney Hospital of cerebral hemorrhage.

Levi Clark Annis, Cedar Springs, Mich.; Detroit College of Medicine, 1896; formerly member of the local school board; aged 76; died, March 25, of myocarditis.

George Dampier Mitchell, Berkeley, Calif.; Northwestern University Medical School, Chicago, 1896; aged 77; died, February 21, of cerebral hemorrhage.

Tennant Bledsoe Brown, Columbia, Tenn.; Baltimore Medical College, 1897; aged 66; died, March 4, in the King's Daughters' Hospital of pneumonia.

George Albert Gorsuch, Toledo, Ohio; Toledo Medical College, 1896; served during the World War; aged 66; died, March 10, of cerebral hemorrhage.

Harriet P. Bigger Spaulding, Pasadena, Calif.; Hahnemann Medical College and Hospital, Chicago, 1893; aged 68; died, January 25, of diverticulosis.

John S. Paul, Dallas, Texas; Memphis (Tenn.) Hospital Medical College, 1903; aged 62; died, March 6, of cerebral hemorrhage and arteriosclerosis.

Herbert S. Carver, Barre, Vt.; University of Vermont College of Medicine, Burlington, 1884; aged 78; died, February 21, of cerebral thrombosis.

Comodore Connolly, Vienna, W. Va.; Baltimore University School of Medicine, 1893; aged 72; died, March 16, of coronary occlusion.

William Delton Jones, Ozan, Ark.; St. Louis College of Physicians and Surgeons, 1893; aged 76; died, January 26, of pneumonia.

Mathew W. Spearman ● Lake City, Fla.; Atlanta (Ga.) School of Medicine, 1911; aged 58; died, March 1, of coronary occlusion.

Eleanor Beatty, Pana, Ill.; Hering Medical College, Chicago, 1895; aged 81; died, March 21, of erysipelas and arteriosclerosis.

Paul T. Vaughan, Hot Springs National Park, Ark.; Baltimore Medical College, 1893; aged 69; died, March 5, of gastroenteritis.

Wallace Marsh Waterman, Oak Park, Ill.; Rush Medical College, Chicago, 1887; aged 74; died, March 6, of arteriosclerosis.

Wesley Wilson Tucker, Lafayette, Tenn.; Eclectic Medical Institute, Cincinnati, 1887; aged 78; died, February 28, of uremia.

David William Bolles, Long Beach, Calif.; Rush Medical College, Chicago, 1884; aged 80; died, February 9, of heart disease.

Bureau of Investigation

THE LIFETIME EYESIGHT SERVICE FRAUD

Barrett Attempts to Evade a Fraud Order

In February 1938 the Post Office Department reported that the mails had been closed to a fraudulent concern known as the Natural Eyesight Institute, Inc., Urbane L. Barrett, president, and Thomas J. Barrett, secretary, all of Los Angeles. A fraud order had been issued against the swindle nearly a year earlier —May 1937—but the quacks applied for a temporary injunction. Though the injunction was not issued the mail was ordered impounded until the case was disposed of. The injunction suit was dismissed in February 1938 and the fraud order was put into effect.

The public was warned about this fraud in *Hygeia* for November 1938 in an article titled "The 'Natural Eyesight Institute' Fraud." It was written by Arthur J. Cramp, M.D., formerly Director of the Bureau of Investigation. The fraud was shown to consist in selling on the mail-order plan a "system" of alleged eye exercises in which a mechanical gadget played a large part.

Typical advertisement taken from the article in *Hygeia*, where this fraud was first exposed in November 1938.

The promoter of this swindle advertised that by the use of his mechanical toy and his "system" one could "See Without Glasses"; yet the facts were that the promoter himself was obliged to wear glasses! It was further claimed that the "system" would enable the purchaser of it to abandon the use of spectacles for the correction of defects of visual acuity due to nearsightedness, farsightedness, astigmatism, "old age sight," squint, cross-eyes, weak eyes and failing vision due to age.

Although the mails were closed in February 1938 to the "Natural Eyesight Institute, Inc."—which had operated from Los Angeles—two months later Urbane Barrett attempted to evade the fraud order by changing the name to "Lifetime Eyesight Service" and having remittances sent to him at Roscoe, Calif., through an express company. As Barrett had a number of what he called "shelf-worn" copies of his "system" and his gadgets he apparently felt that he might as well try to put over a "going out of business" sale. He advertised from Roscoe that he would sell his outfit—for which he previously had charged $25—for a mere $8. Those who ordered it were sent the material C. O. D. express. When the express company received the money it forwarded this *by mail* to Barrett's Los Angeles address.

As a result the Post Office Department issued a supplementary fraud order in April 1939 against Lifetime Eyesight Service, I. Barrett, executive secretary, and their officers and agents as such.

MISBRANDED "PATENT MEDICINES"

Abstracts of Notices of Judgment Issued by the Food and Drug Administration of the United States Department of Agriculture

[EDITORIAL NOTE.—The abstracts that follow are given in the briefest possible form: (1) the name of the product; (2) the name of the manufacturer, shipper or consigner; (3) the composition; (4) the type of nostrum; (5) the reason for the charge of misbranding, and (6) the date of issuance of the Notice of Judgment—which is considerably later than the date of the seizure of the product and somewhat later than the conclusion of the case by the Food and Drug Administration.]

Cholax.—Crescent-Kelvan Co., Philadelphia. Composition: Essentially sodium and magnesium sulfates, sodium phosphate, baking soda and citric and tartaric acids, with a trace of a lithium compound. For rheumatism, gout, uric acid and jaundice. Fraudulent therapeutic claims.—[*N. J. 30611; November 1939.*]

Concentra-Food.—Jean Ferrell, Inc., Chicago. Composition: Essentially powdered rhubarb root, some dried extractive material, soya bean tissues and Irish moss tissues. Adulterated because it contained rhubarb root, a drug, which had been substituted wholly or in part for an article which purported to be a food. Misbranded because designation as a food was deceptive, since it was not a food, in that it consisted essentially of a drug, powdered rhubarb root; other false and fraudulent representation.—[*N. J. 30606; November 1939.*]

Fatherland Tea.—Charles Stern, Pittsburgh. Composition: Essentially senna and buchu leaves, camomile flowers, fennel seed, juniper berries and dog grass. Fraudulently represented as a cure "for all diseases of the blood, liver, kidneys and stomach" and a good many other disorders.—[*N. J. 30608; November 1939.*]

Koch's (Dr.) Cough Syrup.—Koch Products Co., Winona, Minn. Composition: Essentially small amounts of ammonium chloride, volatile oils including menthol and anise, and extracts of plant drugs, such as licorice, with chloroform, sugar and water. For coughs, la grippe, severe colds, and worms in children. Fraudulent therapeutic claims.—[*N. J. 30601; November 1939.*]

Koch's (Dr.) Dyspepsia Tablets.—Koch Products Co., Winona, Minn. Composition: Small amounts of bismuth subcarbonate, chalk, charcoal and sugar. For all stomach complaints, including catarrh, dyspepsia and indigestion. Fraudulent therapeutic claims.—[*N. J. 30601; November 1939.*]

Koch's (Dr.) Liver Pills.—Koch Products Co., Winona, Minn. Composition: Extracts of plant drugs including aloe, nux vomica and an emodin-bearing drug, coated with sugar and lime carbonate. Fraudulently represented as a cure for all troubles arising from torpid and diseased liver.—[*N. J. 30601; November 1939.*]

Koch's (Dr.) Mentho-Camphe.—Koch Products Co., Winona, Minn. Composition: A white powder consisting chiefly of sugar of milk and small amounts of menthol, camphor and starch. Fraudulently represented as a cure and remedy for catarrh, hay fever and all catarrhal conditions. —[*N. J. 30601; November 1939.*]

Koch's (Dr.) Vegetable Tea Tablets.—Koch Products Co., Winona, Minn. Composition: Plant drugs including licorice, sassafras and an emodin-bearing drug, chalk and sugar. Fraudulently represented to keep one in health, cure constipation, dyspepsia, liver trouble, scrofula, skin diseases, stomach pains and kidney complaint; to relieve female disorders and ulcers, and to prevent appendicitis, catarrh, depressed spirits, diseased blood, jaundice and vertigo.—[*N. J. 30601; November 1939.*]

Nichols Lung Life.—Nichols Chemical Co., Nashville, Tenn. Composition: Essentially water, sugar, alcohol and plant extracts, including licorice. Fraudulently represented to clean the blood, relieve pellagra and all catarrhal and lung troubles, including pneumonia, asthma and coughs. —[*N. J. 30618; November 1939.*]

Willson's Camphor and Eucalyptus Ointment.—Willson Monarch Laboratories, Inc., Edgerton, Wis. Composition: Small amounts of camphor and eucalyptus in a petrolatum base. Fraudulently represented as a penetrating skin remedy to heal all injuries and disorders of the skin, many irritations of the mucous membranes, inflammations, pimples; to cure catarrh, hay fever, lung trouble, croup and irritations due to poisons or conditions of the nerves, and to relieve pain.—[*N. J. 30602; November 1939.*]

Willson's Monarch Buchu Compound.—Willson Monarch Laboratories, Inc., Edgerton, Wis. Composition: Tablets containing extracts of plant drugs, including buchu, and compounds of sodium and potassium. Fraudulently represented as a cure for bladder and urethral disorders and as an antiseptic and stimulant to the mucous membranes of the genito-urinary organs, and as a solvent of stones in the bladder.—[*N. J. 30602; November 1939.*]

Willson's Monarch Cough Syrup.—Willson Monarch Laboratories, Inc., Edgerton, Wis. Composition: Essentially extracts of plant drugs, pine tar, with glycerin, sugar and water, and a small amount of chloroform. Fraudulently represented as a cure for coughs, bronchitis, croup, la grippe, whooping cough and asthmatic and hacking cough.—[*N. J. 30602; November 1939.*]

Willson's Monarch Healing Salve.—Willson Monarch Laboratories, Inc., Edgerton, Wis. Composition: A small amount of camphor in a petrolatum base. Fraudulently represented as a remedy for diseases of, and injuries to, the skin, including eczema.—[*N. J. 30602; November 1939.*]

Correspondence

CONTROL OF VENEREAL DISEASE IN WAR

To the Editor:—In the London letter in THE JOURNAL, January 20, page 266, under the title "Control of Venereal Disease in the War," is set out what purports to be a statement of the present policy of the British army authorities.

This letter appears to be an extract of an article which appeared in the *Lancet*, Nov. 18, 1939, in which the author gave details of the policy of Ruritania toward venereal disease.

In fact, the methods now employed in the British army do not include such things as arsphenamine injections three times a week, the use of liposoluble bismuth or the issue of leaflets on venereal disease to troops before they leave England.

In addition, prophylaxis is not compulsory, nor was Col. B. L. Ank ("Blank"!) lent to the army by the Ministry of Hygiene.

I should be very grateful, therefore, if you would take the earliest opportunity of bringing these facts to the notice of your readers.

T. E. OSMOND, Lieut. Col.
for Director-General, Army Medical Services.
The War Office, Thames House,
Millbank, S.W.1., London.

NOTE.—Our regular London correspondent apparently failed to grasp the very unusual method of presentation of the paper by E. T. Burke in the *Lancet*, Nov. 18, 1939, page 1082. Burke's article is merely a suggested scheme for the prevention and treatment of venereal disease and is not one necessarily that has already been adopted by "the Ruritanian army" or any other army. The author writes plainly as follows in the first paragraph of his summary: "A suggested scheme for the prevention and treatment of V. D. among troops is presented for simplicity as if it were already adopted by a mythical Ruritanian army." Burke's paper is, therefore, merely a plan which he thinks would be effective for the treatment of venereal disease if it should be adopted in the army.—ED.

SYSTEMIC REACTIONS TO "SLOW EPINEPHRINE"

To the Editor:—Dorwart (THE JOURNAL, February 24, p. 647) has recently pointed out that occasionally severe reactions occur to "slow epinephrine."

We have noticed several similar reactions to a product labeled "epinephrine in oil." This material is stated to contain 2 mg. of epinephrine crystals in each cubic centimeter of peanut oil. The reactions, like the reaction reported by Dorwart, were controlled to a large extent by the production of venous stasis in the arm through the application of a blood pressure cuff above the injected site. The efficacy of slowing systemic absorption of epinephrine by this method was first pointed out by one of us (S. W. I.) in 1930 (*ibid.*, March 15, 1930, p. 765).

We feel that the reactions are typical of gross overdosage of epinephrine or of too rapid absorption. From our total experience it does not appear that these effects are due to intravenous inoculation.

Of the greatest interest is the fact that all these reacting patients at other times have been given injections of a different preparation containing epinephrine base in peanut oil, and none of them showed any untoward reactions to this product even though it represented the same suspension of 2 mg. of epinephrine in each cubic centimeter. We might add that so far we have seen no serious reaction to the epinephrine base in oil out of approximately 700 injections.

We feel that much of this difference can be explained on the basis of the first preparation possibly being hydrochloride crystals rather than the base. Since the hydrochloride is more soluble than the base in aqueous solutions such as tissue fluid, it follows that the hydrochloride would be more rapidly absorbed from oil suspension, thus in some cases leading to symptoms of overdosage of epinephrine.

Although we have seen no severe reactions to epinephrine base in oil, it is necessary to take greater precautions with this material than with ordinary 1:1,000 solution of epinephrine. This should be done both because of the larger amount of active material being introduced (1 cc. of oil solution being equivalent to 2 cc. of 1:1,000 epinephrine) and because of its prolonged action. We feel that the initial adult dose should never exceed 0.5 cc. of epinephrine base in oil, and then if the initial dose is well tolerated it may be increased to as high as 1 cc. at a later injection.

S. W. INSLEY, M.D.
ALBERT SEGALOFF, M.S., Detroit.
Departments of Clinical Medicine and Anatomy,
Wayne University College of Medicine.

ROENTGEN AND X-RAYS

To the Editor:—I have for some years noticed an increasing tendency for physicians and surgeons, especially those employing x-ray apparatus in their work, to make an unwarranted application of the name of Prof. Wilhelm Konrad Roentgen. Professor Roentgen was an eminent physicist, professor of physics in the University of Würzburg, and doubtless made important contributions to the science of radiology.

However, he was not, as far as I know, the inventor of an x-ray tube, although he might have made or suggested modifications. As far as I can learn, the inventor of the original x-ray tube was Sir William Crookes, who desired to study the effects and qualities of the cathode ray when produced in a tube the interior of which was as nearly as possible a perfect vacuum.

When I first became acquainted with the revelations made of conditions, normal or abnormal, in the interior of the animal body by the employment of these rays, the tubes by which they were produced were called Crookes' tubes. At present a modification of these tubes devised by W. D. Coolidge, an American physicist, seems preferred.

Professor Roentgen did render an invaluable service in discovering and making known an important property of the x-rays, after they had become known to students of science. He published an article pointing out that the rays emanating from a Crookes tube have the power of penetrating a considerable thickness of material opaque to sunlight yet are arrested by a substance of considerably greater density.

For a number of years past there has been a tendency to extend the name of Roentgen to various appliances, effects and methods with which Professor Roentgen was not acquainted and credit for which he would, if living, be the first to disavow. Thus we have "roentgen" the international unit, "roentgenism," "roentgenization," "roentgenologist" and so on for a full half page of a good sized volume.

M. W. HOGE, M.D., St. Louis.

KARAYA GUM SENSITIVITY

To the Editor:—On page 747 of the March 2 issue of THE JOURNAL is an article on "Karaya Gum (Indian Gum) Hypersensitivity" by Dr. Karl D. Figley. We wish to call attention to some errors therein.

The protein concentrations of the two samples of gum are given as 0.0019 mg. and 0.002 mg. per gram. These should read 19 mg. and 20 mg. respectively.

Also the statement "It thus appears that karaya gum contains approximately 0.1 per cent total nitrogen" is incorrect, since on the basis of the analyses reported the total nitrogen content is approximately 1 per cent.

H. J. HEINZ COMPANY,
L. H. ALMY,
Pittsburgh.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

RABBIT ANTIPNEUMOCOCCIC SERUM AND SULFAPYRIDINE FOR PNEUMONIA

To the Editor:—Which is considered the best method to give type II rabbit antipneumococcic serum when sulfapyridine has been started before typing? Is it better in cases in which the temperature is less than 102 F. to give 100,000 units in a twelve hour period or to give a smaller amount and gradually increase the dose (for a five days)? How long after the temperature has been normal in the treatment of a patient who has had a reaction of dermatitis from sulfapyridine before the patient will be allowed to sit up in bed when the pulse is not over 72 and not under 65? How long for such a patient if the pulse is not over 82 while sitting up in bed before he should be allowed to sit up in a chair?

M.D., New Mexico.

ANSWER.—In answering this question it is assumed that sulfapyridine had been administered to the patient and that for some reason the patient's condition was not considered favorable, and it was decided to administer type II rabbit antipneumococcic serum, after typing had shown that the patient was suffering from a type II pneumococcus pneumonia.

In administering rabbit serum in this instance, the best practice would be to proceed as follows:

Ask the patient whether or not he has ever had asthma, hay fever, urticaria or any previous serum treatments which may have resulted in a reaction. Test his sensitivity to the serum by each of the following methods: 1. Conjunctival test: One drop of 1:100 dilution of serum in physiologic solution of sodium chloride is instilled into the conjunctival sac. If after fifteen minutes there is a moderate or marked injection of the conjunctiva and sclera, the test is positive for serum sensitivity. If the reaction is severe it can be abolished by placing one drop of 1:1,000 epinephrine solution in the conjunctival sac. 2. Intradermal test: Inject 0.1 cc. of a 1:100 dilution of the serum intracutaneously. If after fifteen minutes a red wheal larger than a dime (18 mm.) is present the cutaneous test should be considered positive. 3. Intravenous test: If tests 1 and 2 are negative and rabbit serum is being administered, inject 5 cc. of the 1:100 dilution of the serum intravenously, after first recording the pulse and blood pressure. If after five minutes the pulse has risen 20 beats or the blood pressure has fallen 20 mm. of mercury the patient must be considered sensitive to the serum, and under these conditions great care should be used in administering the serum for fear that a serum reaction of sensitivity may occur.

However, if tests 1, 2 and 3 are negative the next step is to perform a Francis skin test (Wood, W. B., Jr.: The Control of the Dosage of Antiserum in the Treatment of Pneumococcal Pneumonia: II. The Clinical Application of the Francis Skin Test, *J. Clin. Investigation* **19**:105 [Jan.] 1940) with a 1:1,000 dilution of the specific capsular polysaccharide derived from the type II pneumococci. This skin test is performed by injecting 0.1 cc. of the solution of the polysaccharide intracutaneously and 0.1 cc. of physiologic solution of sodium chloride close by as a control. The test must be read within fifteen or twenty minutes after the injection. A positive reaction consists of a wheal that is larger than the one which may be produced by the saline solution and which is surrounded by an area of erythema.

If the specific polysaccharide test is negative and the patient is not sensitive to serum, one can administer immediately a single dose of either 50,000 or 100,000 units of type II antipneumococcus rabbit serum slowly by the intravenous route.

Then an hour later the Francis skin test should be repeated and, if negative, another 100,000 units of rabbit serum should be administered intravenously. This dose may be repeated at hourly intervals until the Francis skin test becomes positive. When the Francis skin test becomes positive the administration of serum may be discontinued, as a positive Francis skin test developing in the course of serum therapy means that at the time the test is performed there is an excess of pneumococcus antibody in the blood of the patient.

In about 10 per cent of all cases the Francis test gives a pseudopositive reaction before any serum has been administered. In patients responding in this manner the Francis skin test is of no value in the control of serum therapy. In such cases serum should be given at the rate of from 50,000 to 100,000 units at hourly intervals until from 300,000 to 500,000 units of serum has been given or a definite clinical improvement has been noted in the patient's condition.

In all instances when serum is being given it is wise to keep a 2 cc. syringe, full of epinephrine 1:1,000, at the bedside in order that it may be used at any time if a serum reaction occurs. It is also a wise practice in giving antipneumococcic serum to get the required amount of serum into the patient within a relatively short time.

In a patient who has had a dermatitis from sulfapyridine and who is convalescing from pneumonia, it would be acceptable practice to let him up after he had had a normal temperature for two weeks, provided his lungs are clear. This would probably apply also in both the instances stated in the latter part of the query.

COLCHICINE AND CANCER

To the Editor:—I should like to have information on the use of colchicine in cancer, both with and without x-rays.

M.D., Texas.

ANSWER.—Colchicine is an alkaloid which produces arrest of mitoses in the metaphase. The greatest arrest apparently occurs in cells which undergo rapid division. It has been used experimentally to study the rate of cellular multiplication, since the extent of arrested mitoses parallels the rate of cell multiplication.

The results in the literature concerning its effect on neoplasms are equivocal. The most reliable reports show either no definite regression of spontaneous tumors, after administration of colchicine, or regression followed by recurrence of the tumor. Definite regression of tumor growth in vitro has been demonstrated, however. It is probable that colchicine does produce a retarding effect on tumor growth but not in a sufficient measure to overcome the growth impetus of tumors in the body.

The use of colchicine, together with irradiation (x-rays or gamma rays), has been suggested but no authentic reports on this method of treatment are available.

COLLOIDAL IODINE FOR CORONARY DISEASE

To the Editor:—Please give me the consensus on the use of the colloidal iodine solution which has been advocated in the treatment of angina pectoris and coronary disease; also whether this solution might be available for therapeutic use.

M.D., Mississippi.

ANSWER.—The benefits which are reported from the intravenous injection of a so-called colloidal iodine solution (0.2 per cent isotonic colloidal iodine [exact dosage not stated], 1/150 grain [0.4 mg.] of hydrastinine and 7 grains of sodium cacodylate in 10 cc.) by Dr. Oscar Strauss (A New Management for the Relief of Angina Pectoris and Coronary Disease, *M. Rec.* **148**:190 [Sept. 7] 1938 and *Illinois M. J.* **76**:351 [Oct.] 1939) have not been shown to be due to the injected material. His claims in the light of existing scientific knowledge appear unwarranted until further studies are undertaken.

DEATH FROM ACUTE ALCOHOLISM

To the Editor:—I recently had an argument with a colleague about acute alcoholism as a cause of death. I maintained that, given a young adult in perfect health, it would be impossible for him to drink enough liquor to cause death and that before he could get sufficient liquor down he would either have severe nausea and vomiting or become so intoxicated that he just couldn't drink any more. In other words, my point was that if a person died of acute alcoholism there was some cardiac, renal or other pathologic condition which contributed to his death. Was I wrong or right?

M.D., Maine.

ANSWER.—While it is true that excessive drinking of alcohol often causes vomiting, the absorption of alcohol from the stomach and intestine is so rapid that the amount of alcohol lost by vomiting is usually insufficient to lower the blood alcohol level substantially. Also since the alcohol in the blood reaches its peak in about one to one and one half hours after heavy drinking, it is possible for a person to consume a fatal dose of alcohol while he is still conscious.

Peterson, Haines and Webster in Legal Medicine and Toxicology, volume 2, pages 618-619, list five cases of death following the drinking of alcohol. In four cases necropsies were performed and they indicated that death was due solely to alcohol. Case 1 is particularly to the point: "A moderate drinker, aged 25, in apparent good health, wagered that he could drink one pint of whisky within ten minutes. He drank 1½ pints of cheap whisky and started for home. He soon became unconscious, vomited and became comatose. His face was livid, he breathed heavily, and after four or five convulsions he died in six hours from the time of drinking the spirits. Autopsy performed thirty-six hours after death revealed the following: pupils widely dilated and unequal; sinuses and pia

engorged; whole brain edematous; lungs engorged and lower portions dotted with pleural ecchymoses. From the stomach 14.5 cc. (½ ounce) of absolute alcohol was recovered; the liver contained 3.5 cc. (55 minims)."

PELVIC LYMPH NODE SUPPURATION AND TULAREMIA

To the *Editor*:—A woman aged 22 had tularemia a year ago. She stated that she had never felt well since her illness at that time. No specific treatment was received, and she was treated symptomatically. During the past year her chief complaint has been weakness and nervousness. Four weeks ago I saw her for the first time, when she gave a history of chills, fever and diarrhea of two weeks' duration. I was unable to make a diagnosis at first until I did a rectal examination and located a cul-de-sac abscess, which had never caused her any pain. This was drained, and she is gradually improving. She says she is feeling better than she has for the past year. There is no history of any pelvic infection. Blood agglutination is weakly positive for tularemia. This is the question I should like to have answered: Could she have had an infected pelvic lymph gland, as a result of her tularemia a year ago, which was the cause of the pelvic abscess? I was unable to demonstrate any organisms in a smear prepared from the abscess.
M.D., Ohio.

Answer.—Enlarged pelvic lymph nodes have been noted in cases of proved tularemic infection, but no record has been found of suppuration of these nodes. It is possible that this may have occurred in the case cited. However, it seems unlikely that the agglutination test would be "weakly positive" in any case one year after the onset of tularemia and especially unlikely in a case in which an abscess of tularemic origin was present. It would be necessary to know how well verified was the original diagnosis of tularemia and whether undulant fever and other infections had been carefully excluded then and now.

ACTINOMYCOSIS IN HAT BLOCKER

To the *Editor*:—A patient with the cervicofacial type of actinomycosis was successfully controlled with potassium iodide. The patient worked as a blocker in a hat manufacturing factory. His job was to steam and stretch wool felt bodies into proper shapes and sizes. Is it possible for a person to contract actinomycosis through such work? Are there any records of the disease contracted in this manner?
Harold Weinstein, M.D., Brooklyn.

Answer.—Actinomycosis has not been reported as an occupational disease in wool hat manufacture. When transmitted to man it is said to be mostly through handling grasses, seeds, straw or vegetable débris ordinarily contaminated by molds. Farmers, laborers, coachmen, grooms and millers are said to be most frequently attacked by the disease. There is a possibility that wool may contain the streptothrix, but by the time the wool hat reaches the blocker in the hat factory it is exceedingly unlikely that the organism would still be alive on the wool. Wool, from the time it is shorn up to the time it is used for the manufacture of hats, undergoes various treatments with acids and alkalis which would be likely to kill any fungi that it may contain. In the carroting necessary for felting, it is subjected to the action of strong nitrate of mercury. In the starting operation for making the hat it is again subjected to treatment with acids and hot water. In the dyeing of the hat it is again subjected to treatment with hot water, chromates and dyes. All these treatments would kill any organisms that may have originally been on the wool. The blocker does not handle the hat until it has gone through all these processes. It therefore seems highly improbable, if not impossible, for a blocker in a hat factory to contract actinomycosis as an occupational disease from the wool. It should be ascertained whether the wool used in this factory is subjected to the action of the chemicals usually used in wool hat making. If it is, the streptothrix cannot survive, but if it should be found that the wool is not treated sufficiently to kill possible contaminating fungi there may be a bare possibility that the patient's actinomycosis was of occupational origin.

TOXICITY OF CHLORATES IN GARGLE

To the *Editor*:—Potassium chlorate lozenges 5 grains (0.3 Gm.) have been found quite useful in certain cases of throat irritation; however, knowing the toxicity of the chlorates, I am wondering whether the slowly disintegrating tablets are harmful and, if not, whether they would be if swallowed.
Clifford H. Kalb, M.D., Grafton, Wis.

Answer.—It is probably best in view of the known toxicity of potassium chlorate, that if it is used at all it be used in the form of a gargle. For those who cannot gargle efficiently, a moderate amount of use of potassium chlorate as a tablet generally produces no objectionable results. It is when these tablets are used ad libitum that untoward effects are liable to be produced.

The Council on Dental Therapeutics does not recognize tooth pastes and mouth washes which contain potassium chlorate. It lists the substance as an acute poisoning. In its book "Accepted Dental Remedies" it states:

"Symptoms: Pain in gastric region; nausea, vomiting. Dyspnea, cyanosis. Skin may be jaundiced. General excitation; delirium, collapse; coma. Methemoglobinemia, disintegration of corpuscles. Later, scanty urine or complete anuria, albuminuria, hematuria, methemoglobinuria, nephritis.

"Treatment: Gastric lavage; mucilaginous drinks. External heat. Carbon dioxide-oxygen inhalation. Caffeine or Digitan hypodermically, if necessary. Blood transfusion in severe cases. Treat as for potential nephritis (alkalis and milk diet)."

FURSTENBERG DIET IN MÉNIÈRE'S SYNDROME

To the *Editor*:—Will you please give me the details on the Furstenberg diet for the treatment of Ménière's syndrome? Also the consensus as to its efficacy.
M.D., Alabama.

Answer.—The Furstenberg diet is based on the theory that retention of the sodium ion in the tissues of the inner ear is responsible for, or at least is a factor in, the attacks of Ménière's syndrome. The Furstenberg diet eliminates foods high in sodium, restricts foods with a moderate amount of sodium and eliminates as far as possible sodium chloride. At the same time, large doses of ammonium chloride are given to deplete the tissues of sodium through the excretion of sodium chloride in the urine.

As originally described by Furstenberg, the diet is as follows:

Group A.—The following foods may be taken daily:

1. Eggs, meat, fish and fowl as described.
2. Bread as desired.
3. Cereal, one of the following: Farina, oatmeal, rice, puffed rice or puffed wheat.
4. Potato and one or more servings of any of the following: (*a*) macaroni, (*b*) spaghetti, (*c*) rice, (*d*) corn, (*e*) cranberries, (*f*) prunes, (*g*) plums.
5. Milk as desired.
6. Vegetables and fruit daily of any fruit and of any vegetable not included in groups B and C, as desired.
7. Butter, cream, honey, jellies, jams, sugar and candy permitted as desired.
8. Tea and coffee as desired.

Group B.—Foods to be avoided:

All salt meats and fish, or bread, crackers and butter prepared with salt. Carrots, clams, condensed milk, raisins, caviar, cowpeas, olives, spinach, cheese, endive, oysters.

Group C.—Foods to be taken no more than twice weekly:

Lima beans, beets, buttermilk, cantaloup, cauliflower, celery, chard, dried coconut, dried currants, dates, figs, horseradish, kohlrabi, limes, muskmelons, peanuts, peaches, mustard, pumpkin, radishes, rutabagas, strawberries, turnips, turnip tops, watercress.

Note: All foods to be prepared and served without salt. Water intake unrestricted, although excessive quantities of liquid should not be taken.

Medication: Ammonium chloride 3 Gm. with each meal in capsules (six capsules, each containing 7½ grains [0.5 Gm.] taken during the meal) three days on, two days off.

The diet is most effective for persons who can be hospitalized where the diet can be most accurately regulated and where there is the added factor of rest. It is of undoubted value in many cases of Ménière's syndrome, but some other workers have failed to obtain the uniformly good results reported by Furstenberg.

VARICOSITIES OF VULVA

To the *Editor*:—What is the treatment of varicosities on the vulva? The patient having them also has varicose veins on the anterior front wall of the vagina, on the posterior thighs and on the posterior surfaces of the knees and upper legs.
M.D., Illinois.

Answer.—The pattern of varicosities described suggests that tributaries of the internal iliac vein, notably the superior gluteal, the internal pudic and the inferior gluteal, are enlarged. The varicosities of the vulva may be partly due to reflux of blood from the external pudendal vein, which can be tied as it enters the internal saphenous vein; however, most of the venous engorgement, particularly in view of the presence of enlarged veins in the gluteal and sciatic regions, has spilled over from the internal iliac vein. This would suggest an old pelvic thrombosis. The vulvar veins had better be left alone; they possess no valves and an ascending pelvic thrombosis may be caused by injections.

POLLEN DESENSITIZATION DURING PREGNANCY

***To the Editor:*—A woman in her first pregnancy is expected to deliver at the end of August. Both by history and by scratch tests she is moderately sensitive to some of the grasses and especially sensitive to both ragweeds. I have been considering whether it would be preferable to use histaminase with whatever symptomatic treatment may be necessary, as against the conventional desensitization. Is there any danger of abortion from a reaction following ragweed injection (she gives a history of generalized reactions following both ragweed injections and injections of epinephrine to control them)? Would there be any alteration in the child's inheriting the allergic diathesis?**

Arnold M. Wiesen, M.D., Riverhead, Long Island.

ANSWER.—There is a possibility of inducing uterine cramps and abortion from a dose of pollen which would produce a general reaction. Occasional reports in the literature can be found of low abdominal pain and actual uterine contractions as part of a general reaction. While such a reaction is unusual, the danger is present, especially for one who is inclined to be highly sensitive to pollen. It is advisable in such a case to treat with the necessary pollens but to do so with great caution. The dose given should be such that no large local swelling is elicited. Increases in dose should be given only when the local swelling is small and no injection should be given until all induration and itching have disappeared from the site of the previous injection. The patient should be observed for at least a half hour after each injection and, if any constitutional reaction begins, epinephrine solution should be used immediately and a constrictor placed tightly above the site of the injection.

Should it be deemed inadvisable because of the possible danger of abortion to use specific treatment, palliative measures may be substituted. Ephedrine compounds by mouth are still the most reliable pharmaceutic measures for this purpose. Histaminase has had some favorable reports in cold urticaria. Its use in hay fever is, in the opinion of most specialists in this field, of questionable value. The use of a well made air filter, confining the patient for a considerable part of the day to the room thus equipped, should be seriously considered if the symptoms are severe enough.

Treatment with pollen can have no effect on the child's hereditary tendency to allergy, since it cannot alter the chromosomes. The inquirer may have in mind the possibility of transplacental sensitization of the child with pollen in the mother's tissue. This apparently does not occur, as there is no evidence of an increased proportion of hay fever in children born during the course of such treatment.

VASOMOTOR RHINITIS

***To the Editor:*—What is the prognosis of vasomotor rhinitis in childhood? Many children whom I have seen with vasomotor rhinitis for whom treatment was unsuccessful seemed to be free from the condition as they grew older. My clinical observation also indicates that this condition is less common in adults than in children. Further, I have never observed a case of severe vasomotor rhinitis successfully relieved, although several patients have gone to specialists in allergy. Am I correct, therefore, in assuming that in severe vasomotor rhinitis of childhood the hope for immediate relief is poor, whereas the hope for eventual relief, as the child grows older, is rather bright with or without treatment?** **M.D., California.**

ANSWER.—It is assumed that by vasomotor rhinitis the inquirer has in mind the perennial type of the allergic nasal condition. Most authorities do not agree with the assumption expressed here that the hope for relief is poor, especially in children. However, these patients usually require careful study not alone from the allergic point of view but often from the point of view of the local nasal condition. Frequently the symptoms, while based primarily on a definite atopy, may be aggravated by the presence of a local nasal pathologic condition such as polyposis, fibroma of the nose or sinusitis. The allergic study in itself must be complete and not limited to cutaneous tests. Frequently observation for many months with repeated questioning may be necessary to evaluate the various etiologic factors even in cases in which the cutaneous reactions are positive. Unfortunately, too many patients are referred to the specialist in allergy with the request for cutaneous tests as the sole diagnostic procedure. While a carefully taken history may give the experienced physician clues to the causative factors, which in many cases are confirmed by positive cutaneous reactions, there are a large number of patients who have negative reactions. The diagnostic procedures must then be supplemented by careful environmental and dietetic studies. Instructions for making such studies are available in any of the recent works on allergy.

The frequency of relief varies from 50 to 70 per cent, according to the reports of most workers. Huber and Harsh believe that many of those who do not obtain relief through allergic study are patients with endocrine disturbances. Kuhn (quoted by Warren T. Vaughan, Practice of Allergy, St. Louis, C. V. Mosby Company, 1939, page 988) found that of 720 patients with nasal allergy 40.7 per cent were sensitive to inhalants, 5 per cent to foods and 54.3 per cent to inhalants and contact substances. Of these 720 patients 47 per cent were satisfactorily relieved by allergic management alone, 27 per cent by allergic management plus conservative local nasal therapy and 21.7 per cent by allergic therapy plus nasal operations, while only 3.5 per cent failed to get relief. Such a result, as Vaughan states, is an indication of the value of combining adequate allergic and adequate nose and throat therapy.

As to waiting for a child to "outgrow the condition," this occurs spontaneously in 5 per cent of the allergic cases. On the other hand, asthma follows nasal allergy in about 40 per cent of the cases. It is therefore unwarranted optimism to expect a spontaneous cure in a large proportion of cases.

SMALL DOSES OF MORPHINE AND EXCITEMENT

***To the Editor:*—Will you please let me know if the assertion is right that "little doses" of morphine will produce an excitement?**

Kellner, M.D., Meshek Ein Harod, Palestine.

ANSWER.—The effects produced by small doses (from 1 to 5 mg., or $\frac{1}{60}$ to $\frac{1}{12}$ grain) of morphine are often different from the effects produced by the ordinary therapeutic doses. Mental effort is made easier, especially when mild pains such as headaches have been present. This is probably due to the removal of the inhibiting pain or the diminution of restraining influences. In some individuals even larger doses seem to have an excitant effect. In these cases there is a dilatation of the pupil rather than the well known pin point pupil of morphine narcosis. The statement that "small doses" of morphine will produce an excitement is true in a limited sense.

AMENORRHEA FROM CHANGED RESIDENCE

***To the Editor:*—Can you give me any information regarding the causes of menses ceasing when girls change location (e. g. attending college in another city) other than the matter of a change of food, change of routine, sleeping hours and emotional maladjustments? I believe that unless amenorrhea of this type exists for years it is advisable merely to institute good physical and mental hygiene and not resort to medication (excepting as may be indicated symptomatically, as in anemia). A great many physicians are using glandular therapy and I have not been impressed with its routine usefulness.** **M.D., Texas.**

ANSWER.—The inquirer is correct in assuming that the absence of menstruation in girls who change location is a harmless occurrence. In Germany, where large numbers of city girls are sent to work on farms for a year, many acquire an amenorrhea. A careful study of a large group of such girls for every possible cause for the amenorrhea led to the conclusion that the chief cause of the amenorrhea in these cases was a change of climate. No physical harm resulted from these periods of amenorrhea. We find the same condition in this country among girls who come from abroad and in young girls who go to camp during the summer months. Since in most instances the menses begin again spontaneously after a return to the original location or after an interval of time in the new location, there is no need to institute glandular therapy except in rare cases.

DUST, PTERYGIA AND COMPENSATION

***To the Editor:*—A rancher who drives a tractor in a region where constant dusty winds prevail developed bilateral pterygia. Could these pterygia be attributed to his occupation, and if so would he be eligible for benefits under compensation insurance for loss of time and expense incurred during operative correction of them?** **M.D., Arizona.**

ANSWER.—While it is recognized that dust and wind are factors in causing pterygia, no case in which compensation was collected on this basis has been found. There seems to be a definite predisposition in these cases, since pterygia occurs in only a small proportion of persons exposed to the same conditions. Compensation would depend entirely on the attitude of the insurance company involved or that of the state compensation board.

OCCASIONAL PANTOPON AND NARCOTIC ADDICTION

***To the Editor:*—Would a man aged 37, who has been having attacks of angina once or twice a month for fourteen years, which requires one or two hypodermics of $\frac{1}{3}$ grain of pantopon for relief, be considered a morphine addict? He has no organic disease of the heart. What is the prognosis in this case?** **M.D., Georgia.**

ANSWER.—If the patient does not receive more than $1\frac{1}{3}$ grains (0.085 Gm.) of pantopon or comparable dosage of morphine sulfate a month for the relief of anginal pain, he could not be classified as a morphine addict. The history regarding this patient is too indefinite to attempt a prognosis.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

Examinations of state and territorial boards were published in THE JOURNAL, April 27, page 1690.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II, June 17-19. Part III, June or July, to be given in medical centers having five or more candidates desiring to take the examination. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

SPECIAL BOARDS

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: November 1940. *If a sufficient number of applications were received before March 1 an examination will be held at New York, June 10-14.* Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Written*, October 21. Applications must be on file by September 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *General oral and pathologic examinations (Part II), (Group B)* will be conducted in Atlantic City, N. J., June 7-10. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh (6).

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. New York, June 8-10; Cleveland, Oct. 5. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF OTOLARYNGOLOGY: New York, June 3-5. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PATHOLOGY: New York, June 10-11. Sec., Dr. F. W. Hartman, Henry Ford Hospital, Detroit.

AMERICAN BOARD OF PEDIATRICS: Memphis, Tenn., Nov. 17, preceding the annual meeting of the American Academy of Pediatrics. Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: Cincinnati, May 17-18. Sec., Dr. Walter Freeman, 1028 Connecticut Ave. N.W., Washington, D. C.

AMERICAN BOARD OF RADIOLOGY: New York, June 7-10. Sec., Dr. Byrl R. Kirklin, 102-110 Second Ave., Rochester, Minn.

Book Notices

Saint Louis Medical Society Centennial Volume. Cloth. Pp. 372, with illustrations. Saint Louis, 1939.

This beautifully bound and illustrated volume commemorates one hundred years of public service by members of the St. Louis Medical Society, which grew out of a meeting of seven physicians on Christmas day 1835. Today there are over 1,100 members and the society owns its own building and one of the best medical libraries in the country. The book is dedicated to the ninetieth annual session of the American Medical Association, which met in St. Louis last May. The American Medical Association had previously met in St. Louis several times, the first meeting having been in 1854, the second in 1873 and the third in 1886, three years after THE JOURNAL was founded. In 1919, when Dr. William H. Welch was president, the American Medical Association met in St. Louis and again in 1922, when for the first time the address of the incoming president was broadcast over the radio. The account of the first physician in St. Louis, Antone Francois Saugrain, related by N. P. Dandridge, of Cincinnati, is thrilling. William Beaumont, who practiced in St. Louis after making his famous experiments on Alexis St. Martin, is appropriately commemorated. The complete series of pictures of presidents of the St. Louis Medical Society bears a unanimity of intelligence and character. There is also a picture of every member of the St. Louis Medical Society today. The general chairman of the Centennial Volume Committee, Dr. Robert Mueller and associates, the editor in chief, Dr. Joseph A. Hardy Jr., and associate editors, and the St. Louis Medical Society have added a most interesting and pleasing volume to the list of histories of medical organizations.

Vorlesungen über Feldchirurgie. Von Dr. med. Hermann Matti, Direktor der chirurgischen Universitätsklinik, Bern. Boards. Price, 3 marks. Pp. 56. Leipzig: Georg Thieme, 1939.

This booklet, ambitiously called "monograph" by the author, contains a surprising wealth of information based on the experience in the war of 1914-1918. Many statements and principles arbitrarily laid down by the writer will attract attention not only of military surgeons but of every one interested in traumatic surgery. A few examples can be cited here. The antiseptic method of treatment of wounds with tincture of iodine, diluted solution of sodium hypochlorite and aniline dyes is defended by the author. Patients with infected fractures of the femur should not be transported at all, and those with apparently sterile injuries not for one week if the journey requires more than from three to four hours. Dubs's modification of the Thomas splint, employing a leverage and a spring action, provides traction in addition to extension. Emphasis is laid on the necessity of early amputations in compound, badly infected fractures of the femur. Instead of the popular circular amputation the author advocates the two flap method to avoid a conical stump. He condemns primary as well as secondary closure of wounds caused by projectiles. Instead of a wide exposure, drainage and irrigation of injured articulations, the author recommends a meticulous débridement, removal of foreign bodies, primary closure of the articular capsule and filling of the articular cavity with an antiseptic liquid such as phenol or diluted solution of sodium hypochlorite. One remark is characteristic: the author considers as old fashioned the wish expressed in 1880 by Kocher that the consistency and velocity of projectiles be selected in such a manner that they will disable the combatants without producing excessive injuries.

Congenital Cleft Lip, Cleft Palate and Associated Nasal Deformities. By Harold Stearns Vaughan, M.D., D.D.S., F.A.C.S., Professor of Clinical Surgery, New York Post-Graduate Medical School, Columbia University, New York. Cloth. Price, $4. Pp. 210, with 250 illustrations. Philadelphia: Lea & Febiger, 1940.

Dr. Vaughan's book is based on many years of teaching and operating. Many postgraduate students, looking for a short cut, found the information on this subject of cleft lip and palate so voluminous that it was inaccessible in the time they had to give to it. Therefore Dr. Vaughan epitomized the literature, adding to it much from his own rich store and describing in detail his own modifications of the technic of other surgeons. At the end of each chapter there is a bibliography pertinent to the particular division of the work.

The author suggests that the operation should not be performed under 18 months, the most favorable age being between the second and third year. At 5 or 6 a child is more cooperative and can be taught the use of various devices to improve speech. There is no need to wait for speech perfection before doing the operation, as has so often been stated elsewhere. Tonsils and adenoids may be removed after palatal closure rather than before, because of the scarring and deformity which may make complete union difficult or impossible. The teaching of correct speech after staphylorrhaphy is, of course, a sine qua non. The ability to close completely the velopharyngeal opening at will is the first essential to successful teaching of speech; therefore what seems to be successful surgery may not be such in reality, if the degree of palatal mobility is greatly impaired. Stretching of the area by digital procedure may help, but if it does not then the "push-back operation of Dorrance may be considered.

As for cleft lip, Dr. Vaughan prefers to operate when a child is between 2 weeks and 2 months of age. Repair of the lip is to be performed in practically all cases before staphylorrhaphy. The Collis operation and Blair's modification of Mirault's procedure are well recommended. Blair, of St. Louis, must be credited with the operation which has stimulated other workers to secure a higher average of excellent results. He plans to correct the associated deformities, such as alar asymmetry and downward displacement of lateral cartilages, to obtain a lip of ample length along the vermilion border. The means to this end are fully described. One gets the impression that lip repair is far more difficult than palate repair, especially from the cosmetic point of view.

The tenth chapter is devoted to "secondary" palate operations to correct complete or partial previous operative failures. It is comprehensive and sufficiently illustrated, although it cannot in the nature of things cover every eventuality. Complete credit is given to Veau, Lane and Davies-Colley for ingenious methods of closure. Here scar tissue works to the great disadvantage of the surgeon. In general the causes of failure depend on too much tension on the suture line, loss of tissue from poorly placed incisions and the cutting off of proper blood supply and loss of tissue through infection not properly forestalled or reduced to a minimum before or after operation.

In recent years the results in this field have been excellent, complete closure being the rule in most cases. Therefore the resort to an "obturator" has been limited to a few cases in which the surgeon cannot "borrow" enough tissue to effect repair.

The Participation of Medical Social Workers in the Teaching of Medical Students. Prepared by Harriett M. Bartlett for the Education Committee of the American Association of Medical Social Workers. Cloth. Price, $1.50. Pp. 68. Chicago, 1939.

This small volume is intended as an evaluation of efforts that have been made by a number of medical schools to give their students a better appreciation of the social problems of medical practice by having medical social workers participate in teaching. The report was prepared by the author for the Education Committee of the American Association of Medical Social Workers and is largely based on a study of projects which have been in operation in eleven medical schools. The purpose of the book, as stated by Ida M. Cannon in the introduction, is not merely to summarize experiences but "to disclose the principles that should guide medical social workers in undertaking their responsibilities." This object is well fulfilled, although there is, perhaps, too much emphasis on the ancillary character of the social worker and the humility with which she should deport herself in this new educational role. The impression is also given that the participation of the social worker in medical education is merely an expedient forced on schools by the highly institutionalized character of their clinical work. The few examples of case study, however, quite clearly demonstrate that, with the increasing complexity of society under the industrial system, clinical problems can no longer be solved by the methods of personal philanthropy. Medical social workers have advanced to the position of experts. With their realistic but humanitarian appraisal of social problems and their ability to utilize social resources, the lessons they may teach have applications to the practice of medicine at large. For this reason this book has something to offer to all members of the medical profession, although it was not directed to them. To teachers of medicine or public health contemplating the introduction into their clinical courses of instruction about the social implications of disease it will be especially valuable.

Milk and Nutrition: New Experiments Reported to the Milk Nutrition Committee. Part IV. The Effects of Dietary Supplements of Pasteurized and Raw Milk on the Growth and Health of School Children (Final Report); Summary of All Researches Carried out by the Committee and Practical Conclusions. Paper. Price, 2s. Pp. 70. Shinfield, Reading, England: National Institute for Research in Dairying, 1939.

In this final report the Milk Nutrition Committee presents a complete analysis of certain school-feeding experiments, summarizes the results of all the experimental work sponsored by the committee, which has been in existence since 1934, and attempts to evaluate the importance of these research studies in solving problems of human nutrition. The twofold objective of this research was to compare the nutritive values of raw and pasteurized milk and to ascertain the effectiveness for the growth and health of school children of a "milk-in-schools scheme," under which large numbers of children in Great Britain's schools are given a daily supplement of one third to two thirds of a pint of milk.

Over a period of about a year (from fifty-two to fifty-six weeks) 6,097 children between the ages of 5 and 14 years in five communities in England and Scotland were given a supplementary feeding each school day. In each school the children were divided at random into four groups. The children in these groups received respectively the following supplementary rations: (1) biscuits of negligible nutritive value, (2) one-third pint of pasteurized milk, (3) two-thirds pint of pasteurized milk and (4) two-thirds pint of raw milk. During the period of the experiment, each child was given four medical examinations, including (1) objective measurements (height, weight, chest circumference and muscular strength as indicated by a dynamometer test) and (2) subjective assessments of nutritional status, posture, expression and complexion. In addition, each teacher made four assessments of the intellectual capacity of each child.

After detailed consideration of the pitfalls encountered in the course of the experiment, the committee concludes that the groups of children receiving any milk supplement showed on the average greater increases in height, weight and chest circumference than the groups receiving biscuits. The increases were significantly greater in the groups receiving two thirds of a pint of milk, either raw or pasteurized, than in the groups receiving one third of a pint. No constant differences were found between the raw milk and the pasteurized milk in growth-promoting effects. Although the data from the subjective assessments were less conclusive, larger numbers of the children who received milk than of the children who received biscuits were placed by physicians in the higher nutritional categories and by teachers in the intellectual categories.

The report compares the outcome of these experiments with that of other studies of the results of increasing the amount of milk in the diet of children, made in widely separated parts of the world. Among the explanations proposed for the relatively small gains made by the children in the present study is that the diets of British families have improved since some earlier studies were made and that this improvement reduces the chances of bringing about a striking change in the condition of children through small supplementary feedings of milk at school. The committee believes that the experiment has confirmed the value of milk for the growth and health of school children and has established the effectiveness of the milk-in-schools scheme.

Diagnosis and Management of Diseases of the Biliary Tract. By R. Franklin Carter, B.S., M.D., F.A.C.S., Associate Clinical Professor of Surgery, New York Post-Graduate Medical School, Columbia University, New York City, Carl H. Greene, A.B., Ph.D., M.D., Associate Clinical Professor of Medicine, New York Post-Graduate Medical School, Columbia University, and John Russell Twiss, A.B., M.D., F.A.C.P., Assistant Clinical Professor of Medicine, New York, Post-Graduate Medical School, Columbia University. Cloth. Price, $6.50 Pp. 432, with 90 illustrations. Philadelphia: Lea & Febiger, 1939.

This book is based on the experiences of the authors and their co-workers in the clinic for the study of diseases of the liver and biliary tract of the Departments of Medicine and Surgery, New York Post-Graduate Medical School and Hospital, Columbia University. It is clearly written. The physiology and the pathologic physiology of the biliary tract are amply discussed. The technic of duodenal drainage, the equipment and the microscopic examination of the biliary sediment, as described by Lyon, constitute one of the most important parts of their diagnostic study. While the authors lay special emphasis on this procedure, there are many clinicians who may disagree with them on the significance of their observations. They go at length into the significance of the bacteriologic study of duodenal drainage bile and think that this might have some correlation to infections of the biliary system. The medical treatment of cholecystitis is well covered and biliary dyskinesia is exceedingly well treated. The dietary management for ambulatory cases is based on the need for specific diets in the various types of gallbladder disease. The surgical management, which includes the selection of patients for operation, the operative results and their follow-up, is refreshing. Cholangiography, by one of their associates, is a timely contribution and, finally, the discussion of the relation of the pancreas to bile tract disease is appropriate. All in all, the physician will find this a comprehensive discussion of diseases of the biliary system, based on a large clinical experience.

Die Chirurgie des praktischen Arztes unter besonderer Berücksichtigung der kleinen Chirurgie und der dringlichen Chirurgie. Von Professor Dr. Erich Sonntag, Direktor des Chirurgisch-Poliklinischen Instituts der Universität Leipzig. Second edition. Paper. Price, 46 marks. Pp. 1,016, with 780 illustrations. Leipzig: Georg Thieme, 1939.

This large textbook of general surgery contains much practical information. About half of the book is concerned with the principles of general surgery such as anesthesia, antisepsis, treatment of wounds and infections. Especially emphasized are minor surgical procedures. Wounds in particular are mentioned in connection with every organ. The material is not well organized. Fractures are discussed in one end of the book, diseases of the vertebrae in the middle and diseases of the extremities at the other end, thus effectively scattering orthopedics from one end to the other. The arrangement of the book is strictly on a topographic basis beginning with the skull and taking up each organ as it is encountered in descent. The minor surgery of the first part and the minor surgery throughout are excellently detailed. Major surgical disorders are handled dogmatically and with little regard to the newer advances in surgery. Nasal suction is not mentioned in the treatment of intestinal obstruction. The technic of catheterization is well described and illustrated. This is a manual of surgery for the general practitioner, which excels in teaching first aid and minor surgery but is not recommended as a textbook of general surgery.

Death Loses a Pair of Wings: The Epic of William Gorgas and the Conquest of Yellow Fever. A Novel in Cadence. By Robin Lampson. Cloth. Price, $3. Pp. 518. New York & London: Charles Scribner's Sons, 1939.

This is a long narrative poem describing the conquest of yellow fever by General William Gorgas. It recounts the boyhood of Gorgas, his medical education and his eventual triumph. The great length of the book makes it difficult to sustain style with perfection. It also detracts somewhat from scientific actuality to have a great many matter-of-fact physicians voice their opinions in blank verse. But all the facts are presented, and the volume is an interesting contribution both to medical history and to medical letters.

Demonstrations of Physical Signs in Clinical Surgery. By Hamilton Bailey, F.R.C.S., Surgeon, Royal Northern Hospital, London. Seventh edition. Cloth. Price, $6.50. Pp. 310, with 377 illustrations. Baltimore: William Wood & Company, 1940.

The acquisition of surgical acumen and diagnostic ability is a painful and prolonged process. Anything which renders this process easier is always welcome. This interesting book enlivens the subject of clinical surgery and in almost epigrammatic fashion supplies a considerable quantity of information. The material is always practical and possesses a "down to earth" quality. The chapters on examination of the breast and hernias contain useful routines and are well explained. In a brief book such as this, with its many illustrations, certain phases are necessarily skimpy. Postoperative complications for which every surgeon must be alert could be treated more fully. None the less, the book represents a splendid condensation of surgical art.

Research in Medicine and Other Addresses. By Sir Thomas Lewis, C.B.E., F.R.S., M.D., Physician in Charge of Department of Clinical Research, University College Hospital, London. Paper. Price, 5s. Pp. 75. London: H. K. Lewis & Co., Ltd., [n. d.].

Here are a number of the best essays of Sir Thomas Lewis, notable for his analysis of the relationship of clinical medicine to physiology and the trend of clinical science. He is firmly of the belief that the opportunity for research in clinical science is great and has never been as fully utilized as it should be. It is Dr. Lewis's opinion that all clinical science must be firmly grounded in physiology. The practitioner must frequently arrive at his conclusions by an intuition, which is known as the art of clinical medicine. His experience and his excellent literary style make the book most thought provoking.

Stedman's Practical Medical Dictionary of Words Used in Medicine with Their Derivation and Pronunciation Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomical Tables of Titles in General Use, the Terms Sanctioned by the Basle Anatomical Convention; the New British Anatomical Nomenclature; Pharmaceutical Preparations Official in the U. S. and British Pharmacopoeias or Contained in the National Formulary; and Comprehensive Lists of Synonyms. By Thomas Lathrop Stedman, A.M., M.D., and Stanley Thomas Garber, B.S., M.D. With Etymologic and Orthographic Rules. Fourteenth edition. Fabrikoid. Price, $7.50 with thumb index (without index, $7). Pp. 1,303, with illustrations. Baltimore: William Wood & Co., 1939.

Now in its fourteenth edition, this is a standard work. The present edition begins with an excellent reproduction of the Oath of Hippocrates and provides many new words, particularly relating to the hormones, the vitamins and chemotherapy. Dr. Stedman himself worked on the present edition until May 27, 1938, when he died at the age of 84. The present edition is therefore edited by his nephew, Dr. S. T. Garber.

Preliminary Industrial Hygiene Survey of Indiana Industries. By The Bureau of Industrial Hygiene, Indiana State Board of Health. Verne K. Harvey, M.D., C.P.H., Director. Paper. Pp. 162, with illustrations. Indianapolis, 1939.

This is another of the statistical presentations defining industrial hazards associated with particular occupations which have been undertaken by divisions of industrial hygiene in state health departments at the original behest of the U. S. Public Health Service. The results of the survey are presented in sixty-one tables, together with other illustrative material and text. Facilities now provided by industry to protect workers from harmful exposures are meager, according to this evidence, a situation which the creation of a division of industrial hygiene is designed, at least partially, to correct. Other recommendations in the report urge that occupational diseases be reported by physicians, that industrial plants maintain acceptable and uniform absence records, and that medical and nursing service be widely extended. Evidently much educational work is necessary before every one in industry will draw full benefit from an industrial hygiene program.

A Child Is Born. By Mary McDougal Axelson. Cloth. Price, $2.50. Pp. 298. Caldwell, Idaho: Caxton Printers, Ltd., 1939.

This is a novel on which the motion picture recently current was based. The motion picture was pretty bad; the novel is better than the motion picture and still not good. Apparently for purposes of drama, it has been necessary to concentrate a lifetime of serious obstetric mishaps into a single work. Life does not really proceed at such a pace.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Hospitals: Liability of Corporation for Services Rendered at Officer's Request.—Kravis became ill with pneumonia while traveling on business for the defendant corporation, his employer. He notified the corporation by telegram. The following day the hotel at which he was registered received a telegram from the corporation stating that Freudenfels, the secretary of the defendant corporation, would arrive at the hotel later that day and requesting that Kravis's attending physician be available for consultation. After Freudenfels arrived he requested the attending physician to spare no expense in treating Kravis and assured him and the superintendent of the plaintiff hospital that the defendant corporation would take care of all expenses. Kravis was removed to the plaintiff hospital, where he remained some weeks. On two different occasions the attending physician received a letter from the defendant corporation, signed by Freudenfels as secretary, requesting information concerning Kravis's condition. On the failure of the defendant corporation to pay the hospital bill, the plaintiff hospital brought suit against it and recovered judgment. The corporation then appealed to the superior court of Pennsylvania.

The corporation apparently contended that the evidence adduced in the trial court was insufficient to prove any authority on the part of Freudenfels, its secretary, to bind it for the payment for the services sued on. Express testimony, said the superior court, to prove Freudenfels's authority was not indispensable. The relation of the parties, the necessity for immediate medical attention, the conduct of Freudenfels and the other attending circumstances were factors sufficient to establish agency with power to act. We concede that neither a subordinate agent nor an officer of a corporation has implied authority to bind it for medical services rendered an injured employee except under certain limited circumstances. The agent's or officer's authority to bind a corporation seems to depend, among other things, on (1) the alleged agent's position with relation to the corporation; (2) the time, place and manner of the injury or illness as bearing on the existence of an emergency, and (3) the position of the injured person with relation to the company. In this case Freudenfels was an executive officer of the corporation and he unequivocally held himself out as having authority to bind the company. Kravis appeared to be a valuable employee of the defendant. When he suddenly became ill while on the business of the corporation, an emergency situation was created which was recognized by it. His notification addressed to the defendant was promptly answered by its secretary, who came immediately and expressly agreed on behalf of the company to pay the hospital and medical expenses. Corporations, continued the court, are necessarily required to conduct their business through agents. Their liability is not limited to such acts of their agents as are expressly authorized or necessarily implied; it also embraces all acts of agents within the apparent scope of their authority. A just protection to persons dealing with

corporations imperatively requires that the act of the agent, within the general scope of the business with which he is entrusted, shall bind the corporation, although the specific act may be in excess of his private instructions.

In the opinion of the court, the evidence was sufficient to show implied authority in Freudenfels to contract for the services rendered to Kravis. Where the authority of an agent is to be implied from the conduct of the parties, or established by witnesses, the fact and scope of the agency are for the jury when there is sufficient testimony on the record, if believed by the jury, to establish the fact of agency and the authority of the agent. Taking into consideration, said the court, all the circumstances in this case, it cannot be said as a matter of law that Freudenfels lacked implied or apparent authority to bind the corporation for the payment of medical expenses rendered its employee.

The judgment in favor of the hospital was affirmed.—*Hahnemann Hospital v. Golo Shipper Co., Inc. (Pa.), 5 A. (2d) 605.*

Right of Radio Station to Breach Contract to Broadcast Advertising for Unlicensed Chiropractor.—The plaintiff, a chiropractor, undertook to practice in a small Texas town near the Louisiana border and within a short distance of population centers in Louisiana, in which state he was not licensed to practice. He contracted with the defendant radio station, which broadcasts from Louisiana, to broadcast a series of radio announcements as to the location of his office in Texas and as to his willingness to accept patients. The chiropractor's aim apparently was by means of the broadcasts to attract residents of Louisiana to his office in Texas. The radio station, however, after making one such broadcast refused to make further announcements. The plaintiff then sued the defendant in the Louisiana courts for breach of the contract, alleging as damages the cost of opening his office in Texas and stated sums for loss of business and for humiliation and mental agony suffered. From a judgment of the trial court in favor of the radio station, the chiropractor appealed to the court of appeal, Louisiana, second circuit.

The court of appeal held that the chiropractor had not suffered any actual damages by reason of the asserted breach of contract by the radio station. The chiropractor, said the court, after the refusal of the defendant to continue the radio announcements did not close his office but continued to practice in Texas and use the equipment therein, the cost of which he alleged as an element of damages. The court further refused to allow a claim for loss of business based on the difference between what the chiropractor had received during a period in which he practiced in Arkansas and the average amount he received monthly from his Texas practice. In the first place, said the court, it does not appear that his practice would have been benefited from the radio publicity and, secondly, the asserted damages are conjectural.

The court further held that the chiropractor was not even entitled to be awarded nominal damages for the alleged breach of contract. The chiropractor, said the court, was not licensed to practice in Louisiana, and had he practiced in Louisiana he would have been violating the medical practice act of this state, which prohibits the practice of medicine by a person not licensed to do so and in construing which the Supreme Court of Louisiana has held that to practice chiropractic is to practice medicine. While the court did not determine that the contract in question was illegal, it stated that it was apparent that the primary purpose of the entire venture of the chiropractor in establishing the office in Texas and in entering into the contract for radio time was to evade applicable Louisiana laws by inducing Louisiana residents to come to the chiropractor for treatment in Texas. Since an award for nominal damages, continued the court, is founded on equitable considerations, one who seeks such damages must come into court with clean hands. The chiropractor, in the opinion of the court, did not possess this "required legal immaculateness" and was not entitled to recover nominal damages.

The judgment in favor of the radio station was accordingly affirmed.—*Norman v. Radio Station KRMD, Inc. (La.), 187 So. 831.*

Society Proceedings

COMING MEETINGS

American Medical Association, New York, June 10-14. Dr. Olin West, 535 N. Dearborn St., Chicago, Secretary.

American Association for the Surgery of Trauma, Atlantic City, N. J., June 7-8. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.

American Association for Thoracic Surgery, Cleveland, June 6-8. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Genito-Urinary Surgeons, Skytop, Pa., June 20-22. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4-5. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.

American Association on Mental Deficiency, Atlantic City, N. J., May 22-26. Dr. E. Arthur Whitney, Washington Road, Elwyn, Pa., Secretary.

American Broncho-Esophagological Association, New York, June 5. Dr. Paul Holinger, 1130 N. State St., Chicago, Secretary.

American College of Chest Physicians, New York, June 8-10. Dr. Robert B. Homan Jr., P. O. Box 1069, El Paso, Texas, Secretary.

American College of Radiology, New York, June 12. Mr. M. F. Cahal, 540 North Michigan Bvld., Chicago, Executive Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., June 10-11. Dr. Albert F. R. Andresen, 88 Sixth Ave., Brooklyn, N. Y., Secretary.

American Gynecological Society, Quebec, Canada, June 17-19. Dr. Richard W. TeLinde, 11 East Chase St., Baltimore, Secretary.

American Heart Association, New York, June 7-8. Dr. Howard B. Sprague, 50 West 50th St., New York, Secretary.

American Laryngological Association, Rye, N. Y., May 27-29. Dr. C. J. Imperatori, 108 East 38th St., New York, Secretary.

American Laryngological, Rhinological and Otological Society, New York, June 6-8. Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y., Secretary.

American Medical Women's Association, New York, June 9-10. Dr. Elizabeth Parker, 1835 Eye St., Washington, D. C., Secretary.

American Neurological Association, Rye, N. Y., June 3-7. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 3-5. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.

American Orthopedic Association, Kansas City, Mo., May 6-9. Dr. Ralph K. Ghormley, 110 Second Ave. S.W., Rochester, Minn. Secretary.

American Otological Society, Rye, N. Y., May 30-31. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary Pro-Tem.

American Physiotherapy Association, New York, June 23-28. Mrs. Eloise T. Landis, 2065 Adelbert Rd., Cleveland, Secretary.

American Proctologic Society, Richmond, Va., June 9-11. Dr. Curtice Rosser, 710 Medical Arts Bldg., Dallas, Texas, Secretary.

American Psychiatric Association, Cincinnati, May 20-24. Dr. Arthur H. Ruggles, 304 Blackstone Bvld., Providence, R. I., Secretary.

American Radium Society, New York, June 10-11. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 6. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.

American Society of Clinical Pathologists, New York, June 6-10. Dr. Alfred S. Giordano, 531 N. Main St., South Bend, Ind., Secretary.

American Therapeutic Society, New York, June 7-8. Dr. Oscar B. Hunter, 1835 Eye St., N.W., Washington, D. C., Secretary.

American Urological Association, Buffalo, N. Y., June 24-27. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Association for the Study of Internal Secretions, New York, June 10-11. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.

Association of American Physicians, Atlantic City, N. J., May 7-8. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Coronado, May 6-9. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Hartford, May 22-23. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Illinois State Medical Society, Peoria, May 21-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Kansas Medical Society, Wichita, May 14-16. Mr. Clarence G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Maine Medical Association, Rangeley Lakes, June 23-25. Dr. F. R. Carter, 22 Arsenal St., Portland, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Alexander S. Begg, 8 Fenway, Boston, Secretary.

Medical Library Association, Portland, Ore., June 25-27. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.

Mississippi State Medical Association, Jackson, May 14-16. Dr. T. M. Dye, McWilliams Bldg., Clarksdale, Secretary.

Montana, Medical Association of, Bozeman, June 18-20. Dr. Thomas F. Walker, 206 Medical Arts Building, Great Falls, Secretary.

National Gastroenterological Association, New York, June 4-6. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

National Tuberculosis Association, Cleveland, June 3-6. Dr. Charles J. Hatfield, 50 West 50th St., New York, Secretary.

New Hampshire Medical Society, Manchester, May 14-15. Dr. Carleton R. Metcalf, 3 South State St., Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 4-6. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New Mexico Medical Society, Albuquerque, May 27-29. Dr. L. B. Cohenour, 219 West Central Ave., Albuquerque, Secretary.

New York, Medical Society of the State of, New York, May 6-9. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.

New York State Association of Public Health Laboratories, Rochester, May 20. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, May 13-15. Dr. T. W. M. Long, 321 Hamilton St., Roanoke Rapids, Secretary.

North Dakota State Medical Association, Minot, May 6-8. Dr. Albert W. Shelsey, 2005 North Broadway, Fargo, Secretary.

Ohio State Medical Association, Cincinnati, May 14-16. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Tulsa, May 6-8. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.

Pacific Northwest Medical Association, Spokane, Wash., June 26-29. Dr. C. W. Countryman, 407 Riverside Ave., Spokane, Wash., Secretary.
Rhode Island Medical Society, Providence, June 5-6. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
Society of Surgeons of New Jersey, Paterson, May 22. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.
South Dakota State Medical Association, Watertown, May 20-22. Dr. Clarence E. Sherwood, Madison, Secretary.
Texas, State Medical Association of, Dallas, May 13-16. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1930 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

20: 129-256 (Feb.) 1940

Systolic Gallop Rhythm: Studies on Its Characteristics and Mechanism. C. C. Wolferth and A. Margolies, Philadelphia.—p. 129.
Cardiac Topography: Pathologic Studies of Anterior Aspect of Heart and Its Relationship to Anterior Wall of Chest in Common Heart Diseases. W. Dressler, New York.—p. 141.
Electrocardiogram in Pulmonary Embolism. M. Sokolow, L. N. Katz and A. N. Muscovitz, Chicago.—p. 166.
*Studies in Hypertensive Heart Disease: I. Incidence of Coronary Atherosclerosis in Cases of Essential Hypertension. D. Davis and M. J. Klainer, Boston.—p. 185.
*Id.: II. Role of Hypertension, Per Se, in Development of Coronary Sclerosis. D. Davis and M. J. Klainer, Boston.—p. 193.
*Id.: III. Factors in Production of Angina Pectoris. D. Davis and M. J. Klainer, Boston.—p. 198.
Electrocardiographic Observations on Pneumoperitoneum. B. J. Elwood, G. F. Piltz and B. P. Potter, Jersey City, N. J.—p. 206.
Effect of Chronic Constriction of Aorta on Arterial Blood Pressure in Dogs: Attempt to Produce Coarctation of Aorta. I. H. Page, Indianapolis.—p. 218.
Description of a New Plethysmograph. E. B. Ferris Jr. and D. I. Abramson, Cincinnati.—p. 233.

Coronary Atherosclerosis and Essential Hypertension.—Davis and Klainer present further evidence that patients with essential hypertension show a comparatively high incidence of coronary atherosclerosis. They observed 137 patients with essential hypertension (ninety men and forty-seven women) and 324 controls (230 men and ninety-four women). The percentage of cases of hypertension in which there was marked coronary disease was as high before as it was after the age of 50. Between the ages of 30 and 49 years the incidence of severe disease in the control subjects and in the patients with hypertension was 15 and 44 per cent respectively, and at the age of 70 or more, 32 and 44 per cent respectively. The average for the six decades for patients with hypertension was 45 per cent and for the controls 27 per cent. In persons without hypertension the incidence of marked coronary disease at necropsy was much greater in men than in women, particularly below the age of 60; its occurrence in women less than 60 years of age was infrequent. Above this age there is a rapid rise, so that, after the age of 70, marked coronary disease is found as frequently in women as in men. Although the incidence of coronary disease is increased in women with hypertension, it is still considerably below that in men with hypertension. The incidence of coronary disease in women with hypertension is about the same as that in men without hypertension.

Hypertension and the Development of Coronary Sclerosis.—Davis and Klainer state that the evidence indicates that hypertension by itself is not the cause of the increased incidence of coronary atherosclerosis. Patients with severe hypertension, as evidenced by the general blood pressure level during life and by the extent of cardiac hypertrophy at necropsy, did not have any more coronary disease than did patients with mild degrees of hypertension; patients with hypertension caused by primary renal disease actually showed less coronary disease than a corresponding group of patients who did not have hypertension. The frequent association of coronary atherosclerosis with hypertension suggests that the two are independent results of a common etiologic factor. A plausible explanation for their association is that atherosclerosis occurs, for reasons as yet unknown, in varying degrees in different individuals, and the distribution of the atherosclerotic process in a given individual is irregular. Such patients develop atherosclerosis of the coronary arteries, although the degree of involvement may not be sufficient to cause symptoms. If atherosclerosis develops in certain other parts of the body, permanent hypertension may result. Interference with the blood supply to other structures, not yet studied, may do likewise. This hypothesis explains the occurrence of marked coronary disease without hypertension and the high incidence of coronary sclerosis in patients with hypertension. The same concept is in harmony with the recognized fact that hypertension and coronary sclerosis occur frequently in patients with diabetes.

Hypertension and Angina Pectoris.—Davis and Klainer compared the anatomic changes in forty cases of angina pectoris with hypertension and twenty-one cases of angina pectoris without hypertension. They observed that an extreme degree of coronary disease, involving two or more major arteries, was present in 95 per cent of the patients without hypertension and in only 39 per cent of the patients with hypertension. The incidence of myocardial infarction was correspondingly much higher in the patients without hypertension. Angina pectoris thus often develops with less coronary disease if the patient has hypertension. Factors other than coronary insufficiency which are important in the production of angina pectoris in hypertensive heart disease are cardiac hypertrophy and increased cardiac work.

Archives of Internal Medicine, Chicago

65: 463-660 (March) 1940

*Toxic Hepatitis: Intermediary Fatal Form with Enlargement of Liver: Clinical and Pathologic Study. J. D. Kirshbaum and H. Popper, Chicago.—p. 465.
Formation of Edema in Eyelids of Man: Influence of Local Tissue Pressure, Skin Distensibility, Lymph Flow, Intra-Orbital Pressure Gradient and Venous Pressure. G. E. Burch, New Orleans.—p. 477.
Peptic Ulcer and Achlorhydria: Further Study of Role of Acid Gastric Juice in Pathogenesis of Peptic Ulcer. W. L. Palmer and P. B. Nutter, Chicago.—p. 499.
Hydatid Cysts of Lung. C. Haight and J. Alexander, Ann Arbor, Mich.—p. 510.
Colloidal Gold Reaction of Blood Serum in Diseases of Liver. S. J. Gray, Chicago.—p. 524.
*The Brain in Malignant Hypertension: Clinicopathologic Study. E. F. Rosenberg, Rochester, Minn.—p. 543.
Renal Infarction: Statistical Study of 205 Cases and Detailed Report of Unusual Case. H. J. Hoxie and C. B. Coggin, Los Angeles.—p. 587.
Disturbances of Rate and Rhythm in Hypertensive Heart Disease. N. Plaxman, Chicago.—p. 595.
*Clinical Characterization of Primary Carcinoma of Body and Tail of Pancreas. H. Levy and S. S. Lichtman, New York.—p. 607.
Urea Reabsorption and Relation Between Creatinine and Urea Clearance in Renal Disease. A. Arkin and H. Popper, Chicago.—p. 627.
Bright's Disease: Review of Recent Literature. W. S. McCann, Rochester, N. Y.—p. 638.

Toxic Hepatitis.—Kirshbaum and Popper studied fifteen fatal cases of jaundice in which the liver was found to be enlarged at necropsy much as in catarrhal jaundice, whereas the clinical picture was that of an acute fulminating hepatic disease, with death occurring within a short time, as in acute yellow atrophy. Modern textbooks of medicine fail to describe thoroughly such cases. There were ten men and five women; the youngest was 10 years of age, the oldest 58. The average duration of illness was nine and a half days. Ten patients presented symptoms of sudden onset, with chills, fever, vomiting, abdominal pain, jaundice, stupor and coma. Headaches were a frequent complaint. Anuria was observed in two. Six patients complained of joint and muscle pains. The diagnosis of acute primary hepatitis was made in eight, in one infectious hepatitis was considered, in four mechanical jaundice and in two uremia. Morphologically the condition is a type of fatal parenchymatous jaundice. The onset of the disease with jaundice, progressive until death, indicates a primary disease of the liver. The clinical course suggested acute yellow atrophy of the liver. A striking feature of differentiation was the enlargement of the liver. In this respect these cases may be compared with nonfatal catarrhal jaundice, in which the liver is also enlarged. The condition may be considered as an intermediary stage between catarrhal jaundice and acute atrophy of the liver. It demonstrates that

in fulminating parenchymatous jaundice the prognosis may be poor despite an enlarged liver. Two different processes were in the foreground: damage of the hepatic cells, characterized by central necrosis and heavy infiltration with fat and bile pigment, and enlargement of the organ. The enlargement was due to the presence of a protein-rich fluid between the hepatic cells or edema. The presence of proteins indicated that the edema was due to capillary damage, with subsequent inability to retain the plasma proteins within the lumen of the capillaries. When the amount of escaped proteins is high, the increasing fluid accumulates and leads to the dissociation of the cells. The picture of dissociation may be similar to the one observed in cadavers examined several days after death. In a case studied marked dissociation was present three hours after death, while it was absent in another in which necropsy was done nineteen hours after death. The degree of dissociation varied. The authors are unable to make a positive statement with regard to the etiologic factor, but a toxin may be assumed. Sometimes a food poison was mentioned in the history. Other factors were mentioned, such as syphilis, gonorrhea and infections of the upper respiratory tract. Probably several factors work together in the production of toxic hepatitis. As to the pathogenesis of icterus, it is believed that the combined damage to the capillaries and to hepatic cells is of importance. Central necrosis or marked dissociation are responsible for the interruption of the bile capillaries. A combination of serous hepatitis and damage to the hepatic cells is the chief factor for the development of jaundice, and this explanation probably holds for all types of parenchymatous disease of the liver. Regeneration of the liver in this condition is possible because the framework of connective tissue is intact. The existence of this fatal transitional form emphasizes the need for thorough and active therapy in every case of catarrhal jaundice. Therapy directed toward the damaged hepatic cells is difficult, but the abolishment of the edema may be effected by intravenous injections of hypertonic solution of dextrose. These seem to be of greatest value, since they facilitate dehydration of the interstitial tissues and storage of glycogen.

The Brain in Malignant Hypertension. — Rosenberg studied the brains of seventeen persons dying from malignant hypertension. The age range for the group was from 7 to 65 years, the mean 43. The duration of life after the onset of symptoms varied from four to eighteen months and averaged 8.9 months, justifying the designation "malignant." The symptoms were referable predominantly to the central nervous system. Practically all patients with malignant hypertension have some clinical evidences of cerebral disturbance. The systolic blood pressure in this group amounted to 200 and even to 250 mm. The diastolic often exceeded 120 mm. The appearance of the retina was that of narrowing, of sclerosis of the retinal arteries, flame-shaped hemorrhages, cotton wool exudates and edema of the optic disk. Evidence of cardiac damage was usually present, varying from simple enlargement, with accentuation of the aortic second sound, to advanced cardiac failure, with anasarca, orthopnea and cyanosis. Renal function was good in the early stages but often failed in the terminal stages. In the absence of a definite history of cerebrovascular accident with hemiplegia, the results of the neurologic examination were objectively negative in all but two instances in which the Babinski phenomenon was present. In five of the seven cases in which lumbar punctures were performed, pressure of the subarachnoid fluid was elevated at the time of the first examination whereas in two the pressure was normal. Two patients who had elevated pressures on a single occasion had normal pressures on subsequent studies. Thus it cannot be concluded that edema of the optic disks in a patient with malignant hypertension always denotes increased pressure of the cerebrospinal fluid, although usually these two conditions are associated. Destructive cerebral lesions were observed in twelve brains. From a comparison of the clinical data and the cerebral lesions observed at necropsy the cerebral syndromes of these patients may be divided into various types. Characteristic pathologic changes were found for each type. The primary cerebral lesions responsible for symptoms appear to be (1) intracerebral and extracerebral edema, (2) multiple miliary destructive lesions (hemorrhages or infarcts or both) and (3) large destructive lesions. Heretofore many of the clinical phenomena were attributed to spasms of the cerebral vessels. These spasms may occur and be responsible for the lesions. Such an assumption, however, may lead the clinician to an unjustified sense of security concerning the brain. A history of focal cerebral symptoms in these cases was found to be associated constantly with more or less widespread cerebral destruction when the brain was examined carefully after death. Rosenberg shares the opinion of Rosenblath that each attack is due to the occurrence of one or more new foci and perhaps to increase in the size of the original ones.

Primary Carcinoma of Pancreas. — Levy and Lichtman encountered nineteen patients with carcinoma of the body and tail of the pancreas between 1926 and 1935. The diagnoses were confirmed at laparotomy or necropsy. The symptom complexes are explained on the basis of neoplastic invasion, local and distant metastases or mechanical pressure. The following clinical signs and symptoms were found to assume diagnostic significance: 1. A rapid loss of weight unaccounted for by diabetes, hyperthyroidism, tuberculosis, nervous anorexia, sprue or demonstrable malignant tumor. 2. A marked anorexia which was present in all but one case. 3. A noncolicky pain in the abdomen—either diffuse or in the upper portion—radiating to the lumbar region, unrelated to the digestive cycle and unrelieved by food. It was often nocturnal and relieved by change in posture. 4. Absence of anemia. 5. Absence of occult blood in the stool (which was observed unless the tumor invaded the duodenum or stomach). 6. A disturbed carbohydrate tolerance manifested by glycosuria, hyperglycemia or a dextrose tolerance curve of the diabetic type. 7. Atypical x-ray observations in the duodenum or stomach. 8. Elevation of the blood amylase. 9. Hemorrhagic ascites. 10. Peripheral venous thrombosis, which was observed in six cases. The authors believe that the absence of secondary anemia and of occult blood in the stool and the presence of significant loss of weight sharply differentiate a malignant growth of the body and tail of the pancreas from a gastric carcinoma, in which significant loss of weight is invariably coupled with secondary anemia and occult blood in the stool.

Bulletin New York Academy of Medicine, New York

16: 127-194 (March) 1940

Physiology of Testes and Therapeutic Application of Male Hormone. C. R. Moore, Chicago.—p. 135.
Physiology of Ovaries. P. E. Smith, New York.—p. 153.
Biologic Significance of Nicotinic Acid. C. A. Elvehjem, Madison, Wis. —p. 173.

Canadian Public Health Journal, Toronto

31: 51-98 (Feb.) 1940

Convalescent Measles and Scarlet Fever Serums: Their Use in Prophylaxis and Therapy. W. Thalheimer, New York.—p. 51.
Antipneumococcus Serum Treatment of Pneumonia. H. I. Kinsey, W. H. Brown and W. R. Feasby, Toronto.—p. 56.
Rehabilitation of the Mentally Ill. C. A. Buck, Toronto.—p. 62.
The Kitten Test for Staphylococcus Enterotoxin. C. E. Dolman, Vancouver, B. C., and R. J. Wilson, Toronto.—p. 68.
Contribution of Ontario Cancer Clinics to Control of Cancer. A. H. Sellers, Toronto.—p. 72.
Viability of Hemolytic Streptococci in Stock Cultures. R. Fraser, Sackville, N. B.—p. 77.
Sterilizing Eating Utensils by Chlorine. R. M. MacPherson, Peterboro, Ont.—p. 79.

Johns Hopkins Hospital Bulletin, Baltimore

66: 139-206 (March) 1940

Placental Transmission of Sulfanilamide and Its Effects on the Fetus and Newborn. H. Speert, Baltimore.—p. 139.
Severe Aortic Insufficiency in Association with Congenital Malformation of the Heart of the Eisenmenger Type. Helen B. Taussig and J. H. Semans, Baltimore.—p. 156.
Metabolism of Tissue Cultures of Walker Rat Sarcoma 319. C. L. Gemmill, G. O. Gey and R. Austrian, Baltimore.—p. 167.
*Experimental Production of Cirrhosis of Liver by Means of Deficient Diet. A. R. Rich and J. D. Hamilton, Baltimore.—p. 185.

Production of Cirrhosis of Liver by Deficient Diet.— In the course of investigations on the influence of dietary factors on the resistance to infection, Rich and Hamilton observed that animals kept on a particular diet developed cirrhosis of the liver of a character resembling the Laënnec type of human cirrhosis. To their knowledge this is the first time that cirrhosis resembling the Laënnec type has been produced experi-

mentally by an inadequate diet. It had occurred in all of fourteen rabbits kept from twenty-five to 113 days on diets supplemented by various vitamins but lacking in yeast. The evidence indicates that the cirrhosis was due to lack of some factor contained in yeast but different from vitamins B_1, B_6, B_4 and nicotinic acid. Ascites occurred in seven of the animals. Microscopic gallstones developed in the intrahepatic bile ducts in two animals.

Journal of Experimental Medicine, New York

71: 283-422 (March) 1940

Blood Plasma Protein Production and Utilization: Influence of Amino Acids and of Sterile Abscesses. S. C. Madden, C. A. Finch, W. G. Swalbach and G. H. Whipple, Rochester, N. Y.—p. 283.
Influence of Nitrogen Retention on Regeneration of Plasma Proteins. R. L. Holman and J. G. Mehane, Chapel Hill, N. C.—p. 299.
Familial Mammary Tumors in Rabbit: IV. Evolution of Autonomy in Course of Tumor Development as Indicated by Transplantation Experiments. H. S. N. Greene, Princeton, N. J.—p. 305.
Restoration of Lost Organ Tissue: Rate and Degree of Restoration. T. Addis, San Francisco, and W. Lew.—p. 325.
Distinctive Substance Associated with Brown-Pearce Rabbit Carcinoma: I. Presence and Specificity of Substance as Determined by Serum Reactions. J. G. Kidd, New York.—p. 335.
Id.: II. Properties of Substance: Discussion. J. G. Kidd, New York.—p. 351.
Some Constituents of Elementary Bodies of Vaccinia. J. E. Smadel, G. I. Lavin and R. J. Dubos, New York.—p. 373.
Latent Virus in Normal Mice Capable of Producing Pneumonia in Its Natural Host. F. L. Horsfall Jr. and R. G. Hahn, New York.—p. 391.
Passive Immunity in Avian Malaria. R. D. Manwell and F. Goldstein, Syracuse, N. Y.—p. 409.

Missouri State Medical Assn. Journal, St. Louis

37: 93-134 (March) 1940

Diagnosis and Treatment of Coronary Thrombosis. F. M. Smith, Iowa City.—p. 93.
*Incompatibility Between Congestive Heart Failure and Angina Pectoris. D. Luten and J. H. Wedig, St. Louis.—p. 96.
Seven Hundred and Ninety Consecutive Hysterectomies with Discussion of Technic. H. P. Kuhn and W. F. Kuhn, Kansas City.—p. 98.
Laboratory Aids in Differential Diagnosis of Jaundice. C. F. Kent, Kansas City.—p. 100.
Vitamins in Food. E. L. Miller, Kansas City.—p. 104.
Chemistry of Vitamins and of Vitamin Deficiency Diseases. W. H. Griffith, St. Louis.—p. 105.
Common Instances of Vitamin B Deficiency. R. A. Kinsella, St. Louis.—p. 106.
Vitamin Deficiency and Rickets. J. P. Costello, St. Louis.—p. 107.
Ocular Manifestations of Vitamin Deficiency. A. W. McAlester 3d, Kansas City.—p. 109.
Vitamin Deficiency and Pellagrous Conditions. A. A. Werner, St. Louis.—p. 111.
Use of Vitamins in Chronic Arthritis. R. O. Muether, St. Louis.—p. 111.

Congestive Heart Failure and Angina Pectoris.—Luten and Wedig suggest that a high degree of cardiac tone may be a part of the "spasmogenic aptitude" characteristic of angina patients and this tone, especially in the presence of a greater or lesser degree of coronary sclerosis, may be the crucial factor in the syndrome of angina pectoris. In certain instances it may be sufficient of itself without concomitant coronary disease. The apparent incompatibility between angina and congestive failure raises the questions whether there is something about the patient with angina pectoris which tends to prevent congestive failures, whether angina pectoris has been increasing and whether there has been a corresponding decrease in congestive failure. The problem of whether angina pectoris tends to prevent heart failure must at present rest on hypothetic considerations. The general impression is that angina pectoris is much more common, but only a vast amount of data carefully assembled over a long period and over a large area would be of value in determining this question. The statistics of the Barnes Hospital for the eleven years of 1927 to 1937 show that, in proportion to the total number of admissions, the number of cases of congestive heart failure tended to rise until the year 1932 and that cases of angina pectoris fluctuated at a more or less constant level. From 1932 to 1937 the proportional number of cases of angina pectoris tended to rise, while cases of heart failure declined rather sharply until 1936. For the years 1936 and 1937 there was an increase in the cases of congestive failure and a decrease (for the year 1937) in angina pectoris. If the compilation of adequate statistics should suggest opposite tendencies in the incidence of angina pectoris and congestive heart failure over and above various coincidental factors, such facts would be of extreme importance. Competent study of certain antagonistic factors in these syndromes might throw light on the precise mechanism involved in the production of angina pectoris.

Southwestern Medicine, El Paso, Texas

24: 43-80 (Feb.) 1940

Endaural Fenestration of External Semicircular Canal: Report of 120 Cases. J. Lempert, New York.—p. 43.
Changing Concepts of Tuberculosis During Twenty-Five Years. L. S. Peters, Albuquerque, N. M.—p. 46.
Thirty Years' Observation of Intestinal Obstruction. J. Vance, El Paso, Texas.—p. 48.
Cancer Problems Twenty-Five Years Ago and Now. E. P. Palmer, Phoenix, Ariz.—p. 53.
One Third of a Century of X-Ray Progress. J. W. Catheart, El Paso, Texas.—p. 54.
Pediatric Progress During the Past Twenty-Five Years. M. K. Wylder, Albuquerque, N. M.—p. 59.
Growing Interest in Heart Disease in the Southwest (Since 1915). G. Werley, El Paso, Texas.—p. 61.

Tennessee State Medical Assn. Journal, Nashville

33: 39-78 (Feb.) 1940

Effect of Sinus Disease on Eye. M. M. Cullom, Nashville.—p. 39.
Superior Pulmonary Sulcus Tumor. H. B. Gotten, Memphis.—p. 44.
Functional Investigation of Contracted Pelvis (Test of Disproportion). B. Lorincz, Ujpest, Hungary.—p. 48.
Pellagra Due to Cardiospasm: Case Report. F. E. Marsh, Chattanooga.—p. 54.
Asthma in General Practice. T. C. Crowell, Chattanooga.—p. 55.
Acute Rheumatic Fever. J. J. Hobson, Memphis.—p. 60.

Virginia Medical Monthly, Richmond

67: 131-196 (March) 1940

The Egyptian Building and Its Place in Medicine. W. B. Blanton, Richmond.—p. 131.
Management of Patient with Recurring "Colds," Grip and Influenza. J. R. Hamilton, Nassawadox.—p. 134.
Operability of Gastric Malignancy. C. Moore, Washington, D. C.—p. 138.
Treatment of Eighty-Three Consecutive Cases of Pneumonia in Children, with Special Reference to Modes of Therapy. M. Birdsong, University.—p. 141.
Palliative Treatment of Carcinoma of Esophagus. P. P. Vinson, Richmond.—p. 144.
Investigation and Treatment of Sterility in the Female. E. L. Lowenberg, Norfolk.—p. 146.
Pilonidal Cysts. J. G. Rennie, Bedford.—p. 154.
Sulfapyridine in Treatment of Pneumonia. A. F. Robertson Jr., Staunton.—p. 158.
Treatment of Bacillary Dysentery in Infants. W. E. Keiter, Kinston, N. C.—p. 161.
*Sulfanilamide in Treatment of Gonorrheal Ophthalmia. H. L. Harris, Richlands.—p. 166.
Meningitis Pneumococci: Type III: Case Report. J. E. Diehl, Norfolk.—p. 168.
Subarachnoid Hemorrhage Due to Lues. H. G. Hadley, Washington, D. C.—p. 171.

Sulfanilamide for Gonorrheal Ophthalmia.—Harris states that it took him from three weeks to a month to obtain a negative smear and culture from the eye and to discharge a patient with gonorrheal ophthalmia, when treated with eye irrigations, atropine, ice packs (or warm compresses), local disinfectants, "shock" therapy, gonococcus antigen and the like. There was a distressing toll of lost or impaired vision, especially among the adult patients. He has treated with sulfanilamide five patients with gonorrheal ophthalmia, two adults and three infants, with fairly successful results. Treatment consisted of the usual routine plus sulfanilamide in regular doses. Careful, frequent warm boric acid irrigations appear to be of particular value, since the pressure of the exudate, when allowed to accumulate, tends to cause corneal ulceration. If ulceration was already present, the usual treatment for that complication was added. The daily dosage of sulfanilamide was approximately 15 grains (1 Gm.) for each 20 pounds (9 Kg.) of body weight. Response to the drug is greater and more rapid during the stages of active tissue change. Sulfanilamide should be used early and intensively and should be continued for from seven to ten days after the first negative eye smear is obtained. The average hospitalization for the five patients was sixteen days. Three were completely cured in an average of less than 9.7 days. The remaining two, averaging 25.5 days in the hospital, were examples of the tragedy of delay in treatment, as the organisms may become drug resistant. Sulfanilamide treatment is warranted because of its economic importance, the ease of administration, absence of complications, rapid improvement and general increase in the comfort of the patient.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 243-286 (Feb. 17) 1940

Importance of Gastroscope in Diagnosis of Gastric Diseases in the Army. R. Schindler.—p. 243.
X-Rays in Diagnosis and Treatment of Gas Gangrene. J. F. Brailsford. —p. 247.
*Experiments in Acceleration of Wound Healing. W. G. Waugh.—p. 249.
*The Kahn Test: Simplified Technic. T. E. Osmond.—p. 252.
Primary Lateral Sclerosis of South India: Lathyrism Without Lathyrus. R. L. H. Minchin.—p. 253.

Acceleration of Wound Healing.—Waugh reviews the basic work of Carrel on tissue culture and presents four cases in which this technic was employed. The case histories demonstrate marked acceleration of wound healing under the influence of embryonic tissue extract. The equations and graph curves referable to two of the quoted cases are set out; these confirm the prediction that it is possible to tell how long a wound will take to heal. It is likewise possible to ascertain whether the adoption of various technics of treatment is actually effective in reducing the time of healing.

The Kahn Test.—Osmond's modification of the Kahn test requires a minimum of apparatus, is simple and comparatively foolproof, can be carried out by any one who has had a reasonable amount of practice and is highly specific. The author does not recommend it for testing cerebrospinal fluids. In performing the test two tubes are used for each serum, including positive and negative controls and two for antigen-saline controls. Into the back row one drop and into the front row two drops of suitably diluted and ripened antigen are introduced with the antigen pipet; one volume (0.15 cc.) of each serum to be tested is then added to each pair of tubes, the pipet being rinsed out two or three times in saline solution between any two consecutive serums and the same pipet being used throughout. The rack containing the tubes is shaken for three minutes in the usual way and about 1 cc. of saline solution is added to each tube. Results are read with a hand lens with a magnification of about 6 diameters. For this purpose a slit lamp is most convenient, but any shaded light with a dark background answers the purpose. Results are recorded as positive if both tubes show definite flocculation, negative if neither tube shows any appreciable flocculation, and doubtful if only one tube shows flocculation. If any doubt arises with regard to any given tube it should be compared with the positive, negative and antigen control tubes. The method compares favorably with the Kahn method.

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*Pneumococcic Parotitis. R. T. Payne.—p. 287.
Anaphylaxis Following Administration of Tetanus Toxoid. H. E. Whittingham.—p. 292.
Anaphylaxis After Injection of Tetanus Toxoid: Report of Case. H. J. Parish and C. L. Oakley.—p. 294.
March Fracture—Pied Force. F. A. R. Stammers.—p. 295.
Aerophagy. S. W. Smith.—p. 296.
Weak A Reaction Found in Some Cases of Blood Group AB. G. L. Taylor, R. R. Race, Aileen M. Prior and Elizabeth W. Ikin.—p. 297.

Pneumococcic Parotitis.—According to Payne, the pneumococcus is the least frequent cause of pyogenic parotitis. Pneumococcic parotitis presents certain well defined features that have an important bearing on its treatment. The recognition of the bacteriologic type in a case of parotitis is fundamental to its therapy and prognosis. Payne encountered seventeen cases of pneumococcic parotitis, four of which were acute, twelve recurrent and one chronic. Pneumococcic parotitis tends to be of the recurrent type. There is no one single etiologic factor, but it is certain that dental factors are important in leading to disturbances of mastication and parotid function and that the recurrent disease tends to develop during the first and second dentitions or during the first half of adult life. No allergic factor has been proved. There is little evidence of a relationship to other existing pneumococcic infections. No material was available for microscopic study, as none of the cases came to necropsy. Pathologic changes in pneumococcic parotitis are based on a knowledge of other bacteriologic types of parotitis and on the clinical and operative observations in the pneumococcus group. Pneumococcic parotitis is an ascending infection from the buccal cavity, comparable to the other types of pyogenic parotitis. Its main pathologic features do not seriously differ from them. The nature of these changes depends on the acuteness of the process, the degree of duct obstruction and the extent of the invasion of the gland parenchyma. The evidence does not suggest that the acute type of the disease ever gives rise to miliary abscesses scattered throughout the gland such as have been described in cases due to Staphylococcus aureus. The pneumococcic cases usually resolve fairly rapidly and leave no trace behind. If rapid resolution does not occur, the process is likely to pass into a recurrent or a chronic phase. In the recurrent cases the secretion in the duct system is thick and tenacious and contains a large amount of mucus. The ducts are of a gross and irregular type. There is a tendency to the formation of deep abscesses in the gland in the course of the acute exacerbations and the clinical evidence suggests that there is a greater degree of gland destruction and fibrosis than is found in the cases caused by Streptococcus viridans. Material for bacteriologic examination was obtained by catheterization of the parotid duct and from the parotid abscesses in the cases treated by external drainage. Pneumococci were present in every case. They were often intracellular, either in the leukocytes or in the large polyhedral or tall columnar cells found in the secretion in the recurrent cases. No single strain of pneumococcus is responsible. The important complications are abscess formation within the parotid capsule and external fistula formation. In the acute cases the parotid saliva is thick, mucopurulent and yellowish and does not differ greatly from that found in the Staphylococcus aureus cases. In the recurrent cases the duct saliva is profuse, greenish yellow, very thick and tenacious, and it contains a large quantity of mucus. Pus cells and epithelial cells are present. The saliva is in striking contrast to that found in Streptococcus viridans cases, in which it is watery and contains large numbers of small blobs of mucopus. It is often possible to determine the probable nature of the bacteriologic type of recurrent parotitis on clinical grounds alone. Roentgenograms should be taken in every doubtful case of acute parotitis and in all cases of recurrent or chronic parotitis to exclude the possibility of a calculus, miliary calcification and opacities in the vicinity of the parotid. Treatment should not be undertaken without the fullest investigation. Conservative and local therapy, duct dilation, duct operation, external drainage, gland obliteration, auriculotemporal avulsion, chemotherapy and irradiation must be given consideration. Each case must be considered individually. The dental factor is of paramount importance and no patient is likely to be cured unless the function of chewing is normal. Prognosis as to life is good. In the acute group fulminating cases do not occur, and although recovery is the rule the condition may pass into the recurrent phase. In the recurrent group the exacerbations at times tend to be severe, and there is always a considerable element of uncertainty as to suppuration.

Lancet, London

1: 349-394 (Feb. 24) 1940

Technic for Removing Pulmonary Emboli. A. K. Henry.—p. 349.
Pellagra. H. S. Stannus.—p. 352.
Prevention of Urinary Suppression After Intravascular Hemolysis. S. R. M. Bushby, E. W. Hart, A. Kekwick and L. E. H. Whitby.—p. 353.
Drugs Used in Surgery to Raise Blood Pressure, with Special Reference to Veritol. H. Dodd.—p. 358.
Harelip: New Cupid's-Bow Operation. E. A. Hardy.—p. 361.
Sarcoma of Stomach. A. Hochmann.—p. 362.

Medical Journal of Australia, Sydney

1: 143-178 (Feb. 3) 1940

Brief Survey of Some of the Poliomyelitis Patients Examined During the Victorian Epidemic of 1937-1938. S. Williams.—p. 147.
Acute Anterior Poliomyelitis: Review of 250 Cases in Sydney During the 1937-1938 Epidemic. D. G. Hamilton.—p. 148.
Examination of Olfactory Bulbs in Fatal Cases of Poliomyelitis During the Victorian Epidemic of 1937-1938. E. G. Robertson.—p. 156.

1: 179-214 (Feb. 10) 1940

Inflammatory Conditions of Upper Portion of Respiratory Tract. R. A. R. Green.—p. 179.
Inflammatory Diseases of Upper Portion of Respiratory Tract. G. Halloran.—p. 182.
Notes on American Urology. K. Kirkland.—p. 185.

Archives de Médecine des Enfants, Paris

42: 1-64 (Jan.-Feb.) 1940

*Splenic Thrombosis in Children. M. Lamy.—p. 5.
Encephalitis in Children During Pneumonia: Two Cases. P. Lereboullet, M. Lelong and J. Guillemin.—p. 26.
Marfan's Disease in a Backward Child: Case. M. Wahl and M. Schachter.—p. 37.
Beriberi of Temperate Climates. J. Comby.—p. 42.

Splenic Thrombosis in Children.—Lamy reports four cases of thrombosis of the splenic vein in children. This syndrome is characterized by hematemesis and melena of sudden occurrence and splenomegaly with the characteristics of a splenomegaly of stasis. It is brought about by a thrombosis or stenosis of the splenic vein, associated eventually with a thrombosis of the portal vein. The resulting splenic stasis is followed by the development of collateral venous circulation reestablishing the flow of the blood through anastomoses with the gastric and esophageal veins. Later these veins dilate, become varicose and finally rupture. As a rule the obstacle is a venous thrombosis, infectious in origin. Vascular stenosis may occur as the result of an extrinsic compression or congenital malformation. As a therapeutic measure the author recommends splenectomy.

Schweizerische medizinische Wochenschrift, Basel

70: 113-132 (Feb. 10) 1940

Psychotherapy on Small and Large Scale. M. Boss.—p. 113.
*Infectious Mononucleosis with Special Reference to Sternal Puncture. St. J. Leitner.—p. 117.
Histamine Therapy in Functional Anacidity of Acute Psychotic and Nervous Dyspeptic Patients. J. Szabó.—p. 122.
Relation of Malaria to the Nervous System. M. Joelsas.—p. 123.

Infectious Mononucleosis.—Leitner reports two cases of glandular fever accompanied with angina in which the blood picture was carefully analyzed. The first patient, aged 31, had the typical symptoms: pyrexia, angina and edema of the cervical, submandibular and axillary lymph nodes and of the spleen and liver. The second patient, aged 51, had an open bilateral pulmonary tuberculosis, tonsillitis was prominent and the glandular swellings were less marked. Atypical features in the one case were slow recovery (one month), in the other the advanced age of the patient. The blood picture showed a fairly pronounced leukocytosis (as many as 16,000 to 17,000) and an increase in the lymphoid cells (from 50 to 80 per cent) with numerous "atypical" cells. The author distinguishes five kinds of lymphocytes: lymphoblasts, large lymphoidocytes, monocytoid, those that resemble plasma cells and small lymphocytes. He observed an initial increase of the first four kinds and basophilia in the protoplasm of all five, gradually replaced by azurophil granulation. Sternal puncture did not disclose a bone marrow involvement but a myelocytic condition which is attributed to the interference with cell maturation because of splenic hyperfunction. This splenopathic interference also accounted for the leukopenia and granulocytopenia of the second phase in the evolution of the disease. The Hanganatziu-Deicher agglutination test was positive in the first case. In the tonsillar culture smears of the second case only common gram-positive and gram-negative germs were recovered. The author accepts the view that glandular fever, monocytic angina and infectious mononucleosis constitute a single disease in which differential diagnosis and sternal puncture are diagnostically determinative, especially in cases of acute leukosis and myelopathies.

Pathologica, Genoa

32: 45-88 (Feb. 15) 1940. Partial Index

Hydronephrosis with Bilateral Hydro-Ureter of Dynamic Nature: Case. A. d'Agata.—p. 45.
*Method for Differentiating Paratyphoid Bacteria A from B by Properties of Either Bacterium in Decoloring Red Azosulfamide Solutions. V. de Franciscis and V. Fabrizio.—p. 49.

Method for Differentiating Paratyphoid Bacteria A from B.—De Franciscis and Fabrizio prepared a culture mixture containing 1 part of azosulfamide to 320 parts of the commonly used culture broth. Graduates containing the mixture, with one of the different types of bacteria of the Salmonella group already planted on it, were placed in the thermostat at a temperature of 98.6 F. and kept under observation for twelve consecutive days. The mixture became decolorized in from one to three days by B paratyphoid bacteria and some other Salmonella organisms and in from eight to twelve days by A and C paratyphoid bacteria. Decoloration is not related to processes of oxidation reduction in the mixture. It is due to the growth of bacteria, which is more rapid for bacteria of the B group than for those of the A group. It does not take place in physiologic solution containing emulsions of any type of the mentioned bacteria and azosulfamide at different concentrations. It takes place with considerable delay in peptone water containing the bacteria mentioned and 1 per cent of azosulfamide. The presence of dextrose in the culture mixture of broth-azosulfamide-paratyphoid bacteria inhibits discoloration, whereas the presence of lactose in the mixture stimulates it.

Zeitschrift für klinische Medizin, Berlin

137: 1-242 (Dec. 18) 1939. Partial Index

*Blood Iodine Studies: Influence of Tobacco Smoke on Blood Iodine Level. K. Gutzeit and G. W. Parade.—p. 1.
Alkali Reserve and Performance: Can Physical Performance Be Measured by Size of Alkali Reserve of Blood? G. W. Parade and H. Otto.—p. 7.
Significance of Decrease of Alkali Reserve Following Physical Effort. G. W. Parade and H. Otto.—p. 10.
Influencing Physical Performance by Artificial Creation of Alkalosis and Acidosis. G. W. Parade and H. Otto.—p. 13.
Fever Treatment of Meningitis and of Its Complications with Pyrifer. L. M. Kugelmeier.—p. 60.
Capillary Density in Hepatolienal Diseases and Influence of Splenectomy. H. Franke.—p. 86.

Influence of Tobacco Smoke on Blood Iodine Level.—Gutzeit and Parade examined the influence of smoking on the blood iodine level of five nonsmokers and five habitual smokers at rest in bed. In nonsmokers increase of the blood iodine content was observed after smoking. Increase of the blood iodine quotient, that is, the proportion of organic to inorganic iodine, was likewise observed. The blood iodine content and quotient decreased one hour later and returned to normal in twenty-four hours. An essentially smaller increase of blood iodine content was observed in smokers following smoking which decreased one hour later. The blood iodine quotient either did not increase at all or the increase was considerably smaller than in nonsmokers. Values taken on an empty stomach before smoking revealed that the blood iodine content and quotient were essentially the same in smokers and nonsmokers. It seems to the author that excessive smoking leads to a blunting of the vegetative incretory reactions.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

84: 381-496 (Feb. 3) 1940. Partial Index

Third Degree Burns. C. Knapper.—p. 382.
*Potassium Chlorate in Treatment of Acute Anterior Poliomyelitis. H. J. Kolk.—p. 388.
Acute Anterior Poliomyelitis in a Children's Home. M. A. Visser.—p. 395.
Epidemiology of Meningococcosis and Acute Anterior Poliomyelitis. M. E. Kulsdom.—p. 398.
Myasthenia Gravis Pseudoparalytica. J. P. Braat.—p. 408.

Potassium Chlorate in Poliomyelitis.—Kolk directs attention to Contat's method of chemotherapy in poliomyelitis. Although this method of oral administration of potassium chlorate is still under investigation, the author thinks that the results he obtained with it justify calling attention to this procedure. The daily dose for each patient is determined on the basis of 100 mg. per kilogram of body weight. Thus for an infant of 4 Kg. the daily dose is 0.4 Gm. whereas for a child of 20 Kg. it is 2 Gm.; the daily dose should not exceed 8 Gm. The drug is administered by mouth every two hours day and night, each individual dose constituting one twelfth of the total daily dose. If the same daily dose is given in larger fractions at less frequent intervals, there is danger of toxic effects becoming manifest. In addition to the oral medication the patients are given nasal instillations of five drops of a solution of potassium chlorate in each nostril four times daily. After two days the oral dose is reduced by omitting one daily and one nocturnal administration, and after six days the chemotherapy is stopped. The author treated some of the cases with potassium chlorate and serum and others with potassium chlorate alone. In all, the potassium chlorate therapy was used in fifty-two cases and the impression was gained that the progress of the paralytic symptoms was arrested and that in the preparalytic cases paralysis was prevented.